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A STUDY OF THE RELATIONSHIP BETWEEN
PERSONALITY TRAITS AS MEASURED BY
CATTELL'S 16 PERSONALITY FACTORS
AND ASPIRATIONS FOR LEADERSHIP

by

Diane Anderson Pressel

A Thesis Submitted to the Faculty of the Graduate School
of Loyola University of Chicago in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Education

May

1986

A STUDY OF THE RELATIONSHIP BETWEEN PERSONALITY TRAITS AS MEASURED BY
CATTELL'S SIXTEEN PERSONALITY FACTORS QUESTIONNAIRE AND ASPIRATIONS FOR
LEADERSHIP

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pages

Loyola University

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Need for the Study - The purpose of this study is to test the following hypothesis: There is a significant difference in personality traits as measured by Cattell's 16 Personality Factors Questionnaire between educational administrators and the general population.

Method of the Study - Two hundred fifty administrators in the Cook County area were sent Cattell's 16 Personality Factors Questionnaire plus a demographic survey. Ninety eight responded. The data obtained by the two questionnaires were analyzed using several statistical methods including the General Linear Models Procedure.

Findings and Conclusions - Several interesting statistics were discovered. The first variable tested was position. It was found that superintendents were significantly warmer, shrewder and more conservative than assistant superintendents and principals. There appeared to be no significant differences based on age. The next variable tested was type of school served. Elementary school administrators were found to be significantly less tender-minded than secondary school administrators. Level of education was tested next. PhD and EdD holders scored significantly warmer than those holding only an M.A. PhD holders also scored as significantly more group-oriented. The variable for years of experience produced no significant differences. A general profile of the respondents as a whole was drawn, and it was discovered that the "average" administrator is more outgoing, warm, adaptable, intelligent, dominant, tender-minded and self-assured than the population as a whole.

Recommendations - Profiles such as the one drawn in this study might be useful in several ways. Comparing a profile of educational leaders with the profile of leaders from other areas might indicate what impels one into educational leadership rather than leadership in another area. A profile might also help predict what type of person might be successful in administration. The profile might also be useful in diagnosing leadership problems. Several other possible areas of research might be indicated. It would be good to see how successful various tested administrators actually are. Re-testing participants with other forms of the 16 PF and other personality tests might test the validity of this data. A larger number of participants might also alter the outcome.

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Dr. Philip Carlin, director of this dissertation; Dr. Frederick Lunenberg and Dr. Max Bailey, members of the committee; Dr. J. Kavanaugh; Mr. Jack Corliss and Mr. Jonathan Murphy of the Academic Computing Department; Mr. Robert Walker, Ms. Arlene Watson and Mr. John L. Leckel of Morton East High School; and Mr. David L. Pressel.

VITA

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CHAPTER I

INTRODUCTION

In approximately the year 560 B.C., the Chinese philosopher Lao-Tzu stated:

To lead the people, walk behind them. True leadership must be for the benefit of the followers, not the enrichment of the leaders 1 ... As for the best leaders, the people do not notice their existence. The next best, the people honor and praise. The next, the people fear, and the next, the people hate. When the best leader's work is done the people say 'We did it ourselves'. 2

Over the years since the time of Lao-Tzu, many people have tried to define leadership and determine what effective leadership means. Everyone would not agree with Lao-Tzu.

DEFINITION OF LEADERSHIP

In 1935, O. Tead stated, "Leadership is the activity of influencing people to cooperate toward some goal which they come to find desirable." 3 The skills necessary to this type of leadership are knowing how to influence people and how to convince people that cooperating to that goal will

1. David Loye, The Leadership Passion (San Francisco: Jossey Bass, 1977) p. 8.
2. Ibid., p. 9.
3. O. Tead, The Art Of Leadership (New York: McGraw-Hill, 1935), p. 71.

in some way benefit the individual himself.

In more recent times, Douglas C. Basil stated:

Leaders are made, not born. To become a leader it is necessary to develop leadership skills, which are in turn founded on a deep and pervasive understanding of human beings and human behavior in organizations. To translate this knowledge into effective leadership requires insight, which can be gained only through constant analysis and reevaluation of everyday interpersonal relationships. 4

Although this definition of leadership leans upon a knowledge of psychology unavailable to the earlier writers, a common theme of human understanding runs through all three.

Leadership obviously involves some close study of human relationships.

Loye states in his book The Leadership Passion that we are currently entering a third major shift in leadership style. 5 The oldest style historically is the traditional style - the conservative, autocratic leader. The second style evolved slowly through the last two hundred years or so. This was the more liberal style of leadership which considered the needs and rights of the individual. The third style is just evolving now, so it is difficult to define it precisely, but Loye calls it a "middle style", which combines some of the attributes of the conservative leader and some of the attributes of the liberal leader.

One of the characteristics of modern administration

4. Douglas C. Basil, Leadership Skills for Executive Action (American Management Association 1971), p. 25.
5. Loye, p. 54.

seems to be an increased separation between the administrator and those he administers. This can create problems in the efficiency with which the job is done. In his book, Loyal states:

Increased specialization and bureaucracy limits the view of the individual - makes it difficult for the leader to actually care for the organization - their passion then becomes to gain and hold power for themselves. 6

One's attitude toward administration in general and one's specific job is important. It is not necessary that one be completely satisfied with one's job. Indeed, Maslow states:

The complete absence of frustration is dangerous. To be strong, a person must acquire frustration-tolerance, the ability to perceive physical reality as essentially indifferent to human wishes, the ability to love others and to enjoy their need-gratification as well as one's own (not to use other people as means). 7

STATEMENT OF THE PROBLEM

Since the earliest scientific studies in leadership, researchers have tried to understand the dynamics of leadership. 8 What constitutes leadership? What causes an individual to aspire to leadership? Why is one individual a more successful leader than another?

Early researchers found it difficult to find a common ground among various leaders. 9 However, modern methods of

6. Ibid., p. 84.

7. Ibid., pp. 210-11.

8. Robert S. Cathcart and Larry A. Samover, Small Group Communication (Dubuque: Wm. C. Brown Company, 1970, p. 304.

9. Ibid., p. 318.

research have made the search easier to accomplish.

PURPOSE OF THE STUDY

The purpose of this study is to test the following hypothesis: There is a significant difference in personality traits as measured by Cattell's 16 Personality Factors Questionnaire between educational administration and the general population.

SCOPE AND LIMITATIONS OF THE STUDY

The subjects for this study are elementary and secondary school administrators, principals and above, in the Cook County area. Two hundred fifty administrators were chosen at random from The Suburban School Directory 10 which lists administrators from the suburban Cook County area. The two hundred fifty administrators were made up of one hundred fifty principals, fifty assistant superintendents and fifty superintendents. A questionnaire, a copy of which can be found in Chapter III, was sent to each of these administrators. In addition, each individual received a copy of Cattell's 16 Personality Factors test to be filled out and returned. From this random sample, ninety eight responses were received.

10. Cook County Suburban School Directory

The Cattell test was chosen for several reasons. First of all, since administrators are usually pressed for time, the Cattell test is useful because it is simple and easy to administer. Secondly, scoring is relatively simple and easy to correlate. 11 Thirdly, the questionnaire examines such characteristics as leadership ability, intelligence, compassion for subordinates and other important aspects of the individual personality. 12

The Cattell test is also useful because it is a multivariate test. A multivariate test analyses many measurements on one person, instead of one variable or process at a time. 13 For this reason, many aspects of the leadership ability of an administrator can be analyzed at one time, and correlated with the success of the administrator.

All factors discovered by this questionnaire will be analyzed to detect a pattern of similarities.

The purpose of these procedures is to see if a pattern will emerge that will indicate that a certain personality and/or background type is more likely than the general population to attain leadership.

When this material was collected twenty two individuals were chosen at random from the sample for personal interviews.

11. IPAT Staff, Administrator's Manual for the 16 PF (Champaign: Institute for Personality and Ability Testing, 1970), p. 16.
12. Ibid., p. 19.
13. Ibid., p. 20.

The purpose of these interviews was to discover the individual's own analysis of his leadership abilities and personality type, and then see how these compare with the questionnaire results.

Those qualities which cause one to be loved, feared, hated or ignored as a leader are varied and complicated. However, this paper will attempt to show that with all its variety and complications, the necessary qualities for leadership can, to some extent, be categorized. This may help to ascertain what leadership is, and isn't and how one may attain the necessary skills to become an effective educational leader.

SUMMARY

This chapter began with several definitions of the term "leadership" and a short discussion of the skills that appear to be necessary for leadership. It was mentioned that it is difficult to understand the dynamics of leadership. The purpose of this study will be to determine what common personal attributes can be found in individuals who have attained leadership roles in education. Two hundred fifty administrators in primary and secondary schools in the Cook County area were sent Cattell's 16 Personality Factors Questionnaire plus a demographic survey. Ninety eight responded. In addition, twenty two of those who responded were personally interviewed. The results of these questionnaires and interviews follow.

CHAPTER 11

REVIEW OF THE LITERATURE

INTRODUCTION

The purpose of this chapter is to explore the literature in this field in order to ascertain what research has already been done. The beginning of the chapter sets up the theoretical framework of the study. This section discusses the comments of several researchers regarding general comments on what type of person tends to become a leader and theories of leadership. The second part of the chapter recounts a number of research studies that relate to this study, either because they make use of the 16 PF to discover leadership qualities, or because they relate directly to educational leadership.

THEORETICAL FRAMEWORKS

The idea that certain personality types are more likely to become leaders has been researched for a long time, for the most part unsuccessfully. Stogdill and Gibbs, after much research, concluded that, "numerous studies of the personalities of leaders have failed to find any consistent pattern of traits

which characterize leaders." 1 Cartwright and Zander wrote, "On the whole, the attempt to discover the traits that distinguish leaders from non-leaders has been disappointing." 2 However, some researchers have found a few notable differences in leaders. Cartwright and Zander also mention a report that leaders tend to be slightly taller, and slightly brighter, than those they lead, 3 but this has no great significance in terms of personality.

Bell states that in the study of the relationship between personality traits and leadership, no pattern of traits has emerged. He states, "Leadership itself is known to be a complex, and probably not consistent, pattern of functional roles." 4 His opinion is closer to the idea that leadership is determined by situation and function, and not by any particular personality traits.

Regarding the importance of motivation to leadership, Basil says:

Because each man has a hierarchy of needs which motivate him in all aspects of his life, the manager must be vitally interested in understanding his own and his subordinates' motivational patterns. Motivation itself, however, is a complex phenomenon which cannot be explained solely on the basis of man's need structure. 5

1. Robert S. Cathcart and Larry A. Samovar, Group Dynamics (Dubuque: William A. Brown Company, 1972), p. 302.
2. Ibid., p. 251.
3. Ibid., p. 251.
4. Wendel Bell, Public Leadership (Englewood Cliffs: Prentice Hall, 1970), pp. 164-5.
5. Douglas C. Basil, Leadership Skills for Executive Action (American Management Association, 1971), p. 41.

Berne also feels there is a split of personality within the individual. He believes that it is difficult to tie an effective leader down to one personality. He states, "The effective leader has many 'personas'. As parental figures, some were stern and some benevolent, in playful moods, some behaved amicably and some execrably." 6 In other words, the effective leader adjusts his "personality" to what a given situation seems to require.

Beeler basically agrees with this divided personality idea. He believes that effective leadership requires many different skills, that is, different skills are required to handle different problems. 7 For this reason, a single leader may behave very differently in two different situations. Also, a single leader may be very effective in one situation, and less effective in another.

It is difficult to define exactly what is meant by personality. Hanlon defines personality as follows, "Personality is . . . a pattern of ideals which the individual . . . intends to achieve. To achieve these, acts are placed. When these acts continue over a period of time, they may be described as habits." 8

6. Eric Berne, The Structure and Dynamics of Organizations (Philadelphia: Lippincott, 1963), p. 16.
7. Duane Beeler, Roles of the Labor Leader (New York: McGraw-Hill, 1972), p. 6.
8. James M. Hanlon, Administration and Education: Towards a Theory of Self-Actualization (Belmont, California: Wadsworth, 1968), p. 45.

Cattell as well defines personality. He states, "Personality is that which permits prediction of what a person will do in a given situation . . . Personality . . . is concerned with all the behavior of the individual, both overt and under the skin." 9.

Knowles states that personality:

is influenced and molded mainly through the values and norms of reference groups. Even though a member with such a commitment to a group later leaves it, his personality will have been indelibly affected by affiliation with that group. 10

He further states:

With respect to the formation of individual personalities, culture operates as one of a series of factors which also includes the physiologically determined potentialities of the individual and his relations with other individuals. 11

Knowles recognizes two general concepts of personality - the robot concept and the pilot concept. The robot concept is a cultural concept; personality is made up of "a genetically bounded range of potential individual development". 12 Beyond that, personality depends on a reflection of one's culture, first as experienced through his parents and later by other reference groups. The acceptance of authority is innate and genetic. This is an objective view of human behavior. The

9. Emmett Earl Baughman, Personality: The Psychological Study of the Individual (Englewood Cliffs: Prentice Hall, 1972), p. 9.

10. Henry P. Knowles, Personality and Leadership Behavior 1971, (Reading, Massachusetts: Addison-Wessley, 1971), pp. 54-5.

11. Ibid., p. 45.

12. Ibid., pp. 45-50.

pilot concept is a subjective view - the inner workings of the human mind are the real key to personality. Man has the power of choice and can pilot his own course. 13 The chief goal of the individual is to actualize and maintain himself. The goals and objectives of each individual are different.

Laird states that "human-ness" is a major factor in successful leadership. 14 This is an aspect of personality which is in some ways difficult to analyze. He also feels that the leader is in turn affected by the emotions of others. He believes that the fear of being disliked and the inability to deal with the "normal hostility" in any situation can cause the leader to be unable to act and will undermine the positive things he is able to do. 15

Jung divides personality types into two kinds - extroverted and introverted. 16 In 1934, he described the two basic types as follows:

When orientation by the object predominates in such a way that decisions and actions are determined not by subjective views but by objective conditions, we speak of the extroverted type. 17

The introvert is distinguished from the extrovert by the fact that he does not, like the latter, orient himself by the object and by objective data, but by subjective factors. 18

13. Ibid., p. 60.

14. D. A. Laird, The New Psychology for Leadership (New York: Harper-Row, 1956), p. 189.

15. Ibid., p. 194.

16. Carl Gustav Jung, Psychological Types (Princeton: University Press, 1971), p. 332.

17. Ibid., p. 333.

18. Ibid., p. 373.

Cattell says of Jung, "Jung has argued that everyone shows a split between the conscious personality - the persona - and the unconscious - the anima - the drives which are rejected from the persona tending to find expression in the anima." 19 So Jung also sees a personality split within the individual.

Farley found, after investigating a large number of leadership studies, that a number of characteristics are frequently attributed to effective school leaders. The characteristics are:

1. a sense of "mission",
2. a strong, creative and bold personality,
3. high expectations for students and staff, and
4. more time on task than less successful leaders. 20

These studies would also indicate the need for a strong educational leader. Ferris has an interesting definition of leadership. He states that leadership exists in people's minds rather than in reality. 21 It is an inference made about a person's behaviors and how they are interpreted - he is a leader because he is perceived as a leader. But Ferris also later states that there are some identifiable leadership behaviors. He states that the most notable leadership behaviors

19. Raymond Bernard Cattell, General Psychology (Cambridge: Sci-Art Publishers, 1941), pp. 182-3.

20. R. Farley, "Some Characteristics of Leaders of Effective Schools", American Secondary Education (Spring, 1983), p. 24.

21. G. R. Ferris and K. M. Rowland, "Leadership, Job Perceptions, and Influence", Human Relations (December, 1981), p. 1070.

are the ability to initiate structure and consideration for the followers. 22

Brown states that the chief attributes of the effective leader are sensitive understanding of human nature, understanding of the self, integrity, a sense of total responsibility, decisiveness, and the courage to sustain his decisions. 23

Bennis considers the most important personality characteristic of leaders to be integrity, dedication, magnanimity, humility, openness and creativity. 24

Getzels gives the following definition of personality:

Personality is the totality of what can be observed about an individual, including his habitual behavior; personality is the external-stimulus value of one individual for another individual or group; and personality is the internal motivation system of an individual that determines his unique reactions to the environment. 25

C. Burt states that the concept of personality cannot be isolated. He says:

(the individual is never an isolated unit and) what the psychologist has to study are the interactions between a "personality" and an "environment" - the behavior of a dynamic mind in a dynamic field of which it forms a part. 26

Cathcart and Samovar mention several authorities on what

22. Ibid., p. 1071.

23. James Douglas Brown, The Human Nature of Organizations (New York: Harper-Row, 1975), pp. 20-28.

24. Warren G. Bennis, The Unconscious Conspiracy: Why Leaders Can't Lead 1968, p. 73.

25. Jacob W. Getzels, James M. Lipham and Roald F. Campbell, Educational Administration as a Social Process (New York: Harper and Row, 1968), p. 66.

26. Cathcart and Samovar, p. 366.

type of individual becomes a leader. They state:

Plato believed that only a select few men with superior wisdom would be leaders. St. Paul said only those appointed by God could truly lead. Machiavelli felt that only those princes who demonstrated ability to organize knowledge and power to meet political and military challenges should be followed. Hegel and Marx doubted that any individual has superior strength and influence, but rather, some men understood history and the power of events and were able to lead by making people aware of the direction and force of socio-economic changes. This obviously oversimplified description of various theories of leadership serves only to show why it has been so difficult to arrive at a theory of leadership or agree upon the characteristics of a leader. 27

Leadership is a problem in many areas. The Royal Bank of Canada's Monthly Letter notes that the leader of a group must be the power center of that group and must set the pace in drive, efficiency and enthusiasm. 28 The effective leader should also have a genuine interest in people, since this leads to a more poised and self-confident personality. Communications skills are essential to the successful leader. Persuasion is essential to leadership, and can only be accomplished through effective communication. The Royal Bank suggests, "The best way to get anybody to do anything is to make him want to do it, and it is therefore advantageous to give suggestions, not orders. Make the person feel happy about doing what you suggest." 29 The leader must also show confidence in the

27. Ibid., pp. 341-2.

28. The Royal Bank of Canada Monthly Letter Vol. 56, #8, (August, 1975), p. 1.

29. Ibid., p. 4.

ultimate outcome of each project. Followers will not believe in something the leader doesn't believe in himself. His own efficiency is not enough to carry a project to completion, but can help to inspire others to greater output that can lead to ultimate success.

In 1948, Stodgill listed the most commonly identified leadership traits. He stated that the characteristics one usually looks for in the leader are: physical and constitutional factors, height, weight, physical appearance, intelligence, self-confidence, sociability, initiative, persistence, ambition, dominance, talkativeness, enthusiasm, alertness, and originality. 30

In a series of studies in 1940, Bird concluded that leaders generally surpass non-leaders in intelligence, scholarship, responsibility, activity and social participation. 31

Jenkins differed with the personality trait approach to leadership. He felt that although work has been done in that direction, no definitive results have been reached. He stated, "Progress has not been made in the development of criteria of leadership behavior, nor in setting up an adequate definition of the concept to guide research in isolating leadership traits." 32

30. Cathcart and Samovar, p. 409.

31. Ibid., p. 409.

32. John G. Geier, "A Trait Approach to the Study of Leadership in Small Groups", Journal of Communications (December, 1967), p. 316.

Maslow mentions another characteristic that would be useful to the leader. He states:

The complete absence of frustration is dangerous. To be strong, a person must deal with frustration-tolerance, the ability to perceive physical reality as essentially indifferent to human wishes, the ability to love others and to enjoy their need-gratification as well as one's own (not to use other people only as means). 33

So he believes that a characteristic one normally thinks of in a negative fashion can be in some way positive.

Loye feels that the increased specialization of today's bureaucracy limits the view of the individual. He states that the specialization, ". . . makes it difficult for the leader to actually care for the organization. Their passion then becomes to gain and hold power for themselves." 34 The personal characteristics of the leader that we always think of as necessary for a good relationship with the followers may be missing in the highly specialized bureaucratic leader.

Murphy found that leadership traits are fluid and that individual characteristics change with the situation. 35 For example, a person who is usually dominant may become shy when placed in an unfamiliar situation. A trait that is positively related to leadership in one situation may be negatively related to leadership in another. Therefore, according to

33. Association for Supervision and Curriculum Development Yearbook Committee, 1962, Perceiving, Behaving, Becoming, a New Force in Education, p. 39.

34. Loye, p. 4.

35. Shaw, p. 331.

Murphy, it is difficult to accurately measure personality traits that relate to leadership, because the traits may exist within the individual at one point in time, but not be present at another.

Fiedler has developed a model of leadership effectiveness. Leadership styles are identified by the ASo/LPC scores of the leaders.³⁶ The participant responds to a questionnaire ranking his most preferred and least preferred coworkers on several characteristics. The ASo score (assumed similarity of opposites) is found by comparing the ratings of the most and least preferred coworkers. A great difference in scores causes a high score and a smaller difference causes a smaller score. The LPC (least preferred coworker) is based on how the individual perceives his least preferred coworker. If he thinks highly of this least preferred coworker, he has a high LPC score. If he is highly critical of this coworker, he has a low LPC score. The high LPC individual is usually more satisfied with the interpersonal characteristics of his job than the low LPC individual.

Fiedler states:

High LPC leaders are concerned with having good interpersonal relations and with gaining prominence and self-esteem through these interpersonal relations. Low LPC leaders are concerned

36. Ibid., p. 337.

with achieving success on assigned tasks, even at the risk of having poor interpersonal relations with fellow workers . . . 37

Shaw sums up the ideas of Fiedler by stating the following:

A task-oriented leader is more effective when the group-task situation is either very favorable or very unfavorable for the leader, whereas a relationship-oriented leader is more effective when the group-task situation is only moderately favorable or unfavorable for the leader. 38

After working with this theory for approximately 15 years, Fiedler makes three major points regarding the relationships between leaders and groups. They are:

- (1) The effectiveness of the group is contingent upon the appropriateness of the leader's style to the specific situation in which he operates. Most people are effective leaders in some situations and ineffective in certain others.
- (2) The type of leadership style that we find most effective depends upon the degree to which the group situation enables the leader to exert influence.
- (3) If leadership effectiveness depends not only upon leadership style but also the group situation, we can either make the leader fit a specific group situation by selection or training or we can engineer the group situation to fit the leader. 39

37. Ibid., p. 338.

38. Ibid., p. 344.

39. Cartwright and Zander, p. 362.

Shaw also states that in other laboratory studies using procedures very different from Fiedler's similar results have been obtained, 40 which seems to indicate that this model has some validity.

Sol Levine states that there are basically four types leaders: the charismatic leader, the organizational leader, the informal leader and the intellectual leader. 41 The charismatic leader inspires his followers by the expression of his own emotions. He is able to perceive the feelings of the followers, and dramatizes the emotional aspects of the group. The organizational leader excels at the day-to-day functioning of the administration. His greatest skill, albeit perhaps superficial, is speed and amount of work produced. The informal leader is often not perceived as a strong leader because of his inarticulateness and closeness to the followers. However, his skill as a leader is based upon his sensitivity to the feelings of the members and his ability to work with people in a warm, flexible way. The intellectual leader is adept at the definition and discussion stages of participation, but does not always work well with individuals and does not always easily put his ideas into effect. However, his acknowledged intellectual superiority gain him the respect

40. Shaw, p. 345.

41. Cathcart and Samovar, pp. 386-391.

of the followers. Levine feels that most leaders will fit into one of these four categories.

Cartwright and Zander mention other criteria for the effective leader. They state:

Among the values more commonly invoked in determining criteria of "good" leadership are high morale, high productivity, popularity, equalitarianism, and authoritarianism. In regard to such matters as popularity, group morale, and productivity it has been possible to obtain quantitative measures and to demonstrate that certain kinds of leader behavior produce more of these valued properties than do others. 42

They further state:

Effective leaders are sensitive to the changing conditions of their groups and flexible in adapting their behavior to new requirements. The improvement of leadership may be expected, not from improving leaders apart from the group, but by modifying the relations between leaders and the rest of the group. 43

Jerry Kapp, president of Phi Delta Kappa, states that in order for schools to gain the confidence of the public, administrators must change their attitudes. This is part of the function of leadership. There are several things the administrator can do. 44 They should stop discrediting and attacking each other. They should acquire the will to make changes and not believe "rumors" that they are powerless. They should stop dealing with petty grievances and deal instead

42. Cartwright and Zander, p. 303.

43. Ibid., p. 304.

44. Jerry Kapp, "Confidence Through Accomplishment", News, Notes and Quotes, (Winter, 1983), p. 3.

with major problems. They should also try to re-establish a sense of loyalty to the institution.

Hollander finds that there are three elements involved in leadership - the situation, the leader and the followers. 45 The situation concerns the task, resources, social structure and rules. The leader is moved by motivations, personality characteristics and competence. The followers are also moved by personality characteristics, but by their expectations as well. The followers have certain expectations of the leader, and the leader's success or failure is certainly at least partly dependant upon what those expectations are.

In his book Powers_of_Mind , Adam Smith finds an unusual incentive to leadership - game playing. He believes that some people perceive leadership as a game, which he can "win" or "lose", depending upon his degree of success. Even in business, he sees his incentive working. He states, "Many people in the world of money did not pursue money as the object but rather as a process in a game to be played." 46

This is a very different way to look at leadership, but it does suggest interesting possibilities. Perhaps some innovative leaders gain inspiration for their work by the "wins" and "losses" of their "games". Indeed, Michael Maccoby

45. E. P. Hollander, Leadership Dynamics: A Practical Guide to Effective Relationships (New York: The Free Press, 1978), p. 8.

46. Adam Smith, Powers_of_Mind (New York: Random House, 1975), p. 242.

in his study of leadership types calls one the "gamesman". 47 This is the leader who thrives on competition and does not mind taking a chance. He is a team player and competes not to gain followers or earn money, but to gain fame, glory and the exhilaration of victory.

Knezevich identifies the chief functions of the leader as follows, " how to stimulate personnel to best performance, how to inspire continuous professional development, and how to maximize the output of educational services are challenges to leadership." 48 He specifies that the administrator usually does not attack goals himself, but must work through others to achieve institutional goals. Therefore, how the administrator relates to people will ultimately determine his degree of success.

Knezevich defines leadership as follows:

Leadership has been conceived of as (1) an attribute of personality (symbolic leadership), (2) a status, title, or position recognized in a formal organizational chart (formal leadership), and (3) a function of role performed in an organized group (functional leadership). Leadership is, in essence, concerned with human energy in organized groups. 49

For the purposes of this paper, symbolic leadership is

47. Maccoby, Michael, The Leader - A New Face for American Management (New York: Simon and Schuster, 1981), p. 19.
48. Stephen J. Knezevich, Administration of Public Education (New York: Harper and Row, 1975), p. 81.
49. Ibid., p. 81.

the most meaningful. Irving Knickerbocker mentions several aspects of symbolic leadership.⁵⁰ First he discusses charismatic leadership - this is the individual who is recognized as a leader in terms of personality traits such as enthusiasm, forcefulness and perseverance. He then mentions physical size as related to leadership: often the taller individual is regarded as more like a leader than the shorter individual. He points out that in 14 out of 15 presidential elections from 1904 to 1960 the taller candidate was elected. His next point is the romantic concept of leadership. There is a desire among people for a "father image" or "security symbol" - a superhuman who can solve all problems, has unlimited powers and possesses none of the usual faults of ordinary people. Therefore the leader is often perceived as larger, stronger, more intelligent, more mature, more cultured and more impressive than the ordinary individual. He points out that this concept of the leader works better at a distance; the closer the follower is to the leader, the easier it is to see his imperfections. A "distant" leader, such as a president, can sometimes hide behind a personality myth if he can avoid revealing much of himself to his followers. Knezevich also mentions that this type of romantic myth can work for some educational administrators, such as the superintendent of a

50. Ibid., pp. 81-2.

large district, who cannot possibly have personal contact with all of his followers. They may be more inclined to follow a mythic leader sold to them through a public relations policy than to follow a mere human with whom they have no direct contact.

Getzels and Guba identify four common leadership styles: the manipulative or pseudodemocratic leader, the nomothetic leader, the idiographic leader and the transactional leader.⁵¹ The manipulative or pseudodemocratic leader gives the impression of being democratic even when he isn't. He makes his wishes known and appoints a committee to solve the problem, but the committee is actually a rubber stamp that just legitimizes the wishes of the leader. The nomothetic leader puts the importance of the individual. He stresses following the proper rules and procedures and is not particularly concerned with the welfare of his followers. The idiographic leader is just the opposite. His concern is with the individual personality and ego - both his own and that of his followers. He is willing to bend the rules and to sacrifice some of the institutional demands in order to meet individual needs. The transactional leader is a combination of the nomothetic and the idiographic leaders. He tries to consider both institutional goals and individual needs, and tries to judge each occasion separately, so that

51. Ibid., p. 89.

sometimes the institution is predominant and sometimes the individual. Knezevich states that while these terms are relatively new and not in general use, the transactional leader will probably be the leader of the future.

Unruh and Turner list several personality characteristics that can be attributed to the effective leader. They are a co-operative nature, good manners, ethics and empathy. 52 Awareness of human relations is essential to the successful administrator.

Over the past several years, a number of research projects have been reported that relate to leadership and personality. Although none of these studies duplicated what is done in this paper, there are some similarities. Some recent studies of this nature follow.

Research Studies Using the 16PF

William Ivan Erickson of the University of Southern California compared the 1967-8 NASSP administrative interns with a 1965 study of administrators in Clark County, Nevada. 53 The interns were given the 16 Personality Factors questionnaire in September and again in April, after seven months as interns. The ages of the interns ranged from twenty six to thirty five.

52. Adolph Unruh and Harold E. Turner, Supervision for Change and Innovation (Boston: Houghton Mifflin, 1970), p. 88.
53. William Ivan Erickson, Personality Characteristics of the 1967-8 NASSP Administrative Interns as Measured by the Cattell Questionnaire, University of Southern California 1969

Of the one hundred fifteen interns, one hundred nine individuals completed both forms of the questionnaire. In the first test, the interns were significantly higher as assertive, happy-go-lucky and venturesome. During their seven months of experience, the results of the second test showed some changes. The interns became higher at a .01 level in shrewdness and extraversion.

The study that was most closely related to this one done by Richard Penkava of the University of Southern California.⁵⁴ The study regarded the personality characteristics of high school principals. As subjects Penkava chose 35 United States Dependant Education System - European Area principals in May of 1972. He sent these individuals Forms A and B of Cattell's 16 PF. Thirty responded. Then referring to the NASSP Survey of Senior High School and Junior High School Principals, Penkava compared his subjects with NASSP interns. The principals were found to be significantly more tender-minded, imaginative, forthright and expedient, but less experimental, intelligent and relaxed. When compared with selected USDESEA teachers, the principals ranked as less experimental. When compared to the general population, the principals scored as more intelligent, tender-minded, outgoing, emotionally stable, assertive,

54. Richard Anton Penkava, Personality Characteristics of High School Principals as Measured by the Cattell 16 PF Questionnaire, United States Dependents Schools, European Area, University of Southern California, 1974.

venturesome, imaginative, self-assured and experimenting.

John L. Townley of the University of Southern California did a similar study in which he compared characteristics of innovative teachers with an earlier study of innovative and non-innovative administrators and with the 1967-68 NASSP administrative interns.⁵⁵ For the study, Townley used forty three teachers who had been chosen as innovative by two or more administrators in the Torrance Unified School District. All subjects were given Forms A and B of Cattell's 16 PF. Compared to innovative administrators, the teachers were significantly more expedient, tender-minded, imaginative, forthright and creative. Compared to non-innovative administrators, the teachers ranked significantly higher on the above, as well as more stable, assertive, happy-go-lucky, venturesome and self-assured. Compared to the interns they were more reserved, stable, expedient, tender-minded, imaginative, forthright, conservative and controlled. As compared to the general population, they were more intelligent, stable, tender-minded, imaginative and creative. Demographically, the subjects were nineteen males and thirty four females; the median age was thirty one to thirty five; twenty two had Bachelor's degrees and twenty one had Master's degrees, and

55. John Laurence Townley, Personality Characteristics of Innovative Teachers as Measured by the Cattell 16 PF, University of Southern California, 1973.

the average length of time in teaching was six to eight years.

Christa Margarete Metzger of Arizona State University used the Peel Definition of Leadership to conduct a study.⁵⁶ She chose 964 administrators who were randomly chosen from school districts across the entire country. Only those school districts with a student population of over ten thousand were considered for this study. There was a high level of agreement among administrators with the Peel Definition, but since no attempt was made to determine why administrators agreed or disagreed, the conclusions are not very useful to this paper.

Elizabeth B. Shipman of Ohio University did a study of individual personality types.⁵⁷ She chose at random a number of teachers from thirty two experimental Career Education school districts in Ohio. Using the LEAD-Self instruments, a self-perception measure, she identified 397 teachers as having a dominant personality type. The LEAD-Self instrument also showed that of these individuals, 97% were "high relationship" people, who valued social interaction. Only ten of the subjects registered as "low relationship" people. The fact that dominant personality types are also high relationship types does not seem

56. Christa Margarete Metzger, Content Validation of the Peel (Performance Evaluation of the Educational Leader) Definition of Administrative Competence, Arizona State University, 1975.
57. Elizabeth Barton Shipman, Individual Types as Leadership Styles Related to the Level of Use of an Educational Innovation: Teacher Adoption of Career Education in Ohio, Ohio University, 1976.

surprising, and Shipman does not explain any additional significance to this fact.

Gary John Wexler of the University of Southern California did a personality research project involving elementary school teachers which used the Cattell questionnaire. 58 He asked twenty eight elementary principals to select sixty six teachers they considered innovative, using the Teacher Characteristics and Practices Checklist (TCPC). These chosen teachers were given Forms A and B of the 16 PF and the Dohmann Survey of Teachers' Perceptions Toward Educational Innovations and Change. Of the sixty six subjects selected, sixty three completed the questionnaires. On the Dohmann scale, thirty seven scored high on openness to change. The thirty five female subjects out of the sixty three were then compared with a sample of 1280 female teachers, who were not specifically chosen for innovation. The research subjects scored significantly higher on the following 16 PF scales: self-assured, group dependent, intelligent, emotionally stable, enthusiastic, venturesome, tender-minded and imaginative. When the elementary school group was compared with the group of secondary school teachers, the elementary school teachers were found to be more shrewd and more conservative.

58. Gary John Wexler, Personality Characteristics of Innovative Elementary Teachers as Measured by the Cattell 16 PF, University of Southern California, 1977.

Ronald James of the University of Massachusetts correlated a personality test of elementary school administrators and his own instrument to measure perceptions of subordinates. 59 He found a moderate level of congruity.

Marjorie Maynerd Cabe of the University of Oklahoma compared behavioral profiles of successful educational administrators with their behavior expectations. 60 Cabe found there were four distinct types of composite profiles which were fairly consistent in terms of expected criterion.

William Edward Miller of Arizona State University compared personal systems of business faculty and business leaders using Form D of M. Rokeach's Value Survey and found that faculty members chose such values as helpfulness, loving and broadmindedness. 61 Business leaders, on the other hand, chose ambition, courageousness and imagination.

Marilyn Joan Kendall of the University of South Carolina administered Cattell's 16 PF to ninety nine U. S. Army Officers and compared these results with peer evaluations for the same

59. Ronald James, An Analysis of Leader Attitudes and Behavior: A Paradigm for Improving Leadership Effectiveness , University of Massachusetts, 1982.
60. Marjorie Maynerd Cabe, Validating a Behavioral Profile for Effective Educational Leadership , University of Oklahoma, 1982.
61. William Edward Miller, A Comparative Study of Personal Systems of Collegiate Business Students, Faculty and Business Leaders , Arizona State University, 1982.

officers. 62 She found that peer ratings were inconsistent from rater to rater and that these results did not correlate highly with the results of the Cattell test. In other words, the officers saw themselves differently than did their peers.

Jane Anne Dietl of the U. S. International University gave the Omaha Comprehensive Myer-Briggs Type Indicator (personality) to 125 administrators, third level of manager to president, at Northwestern Bell. 63 She found the best rated traits to be sensing, thinking, judging and extrovert tendencies.

Winifred Phillips Scott of the University of California tried to determine what variables contribute to leadership among female occupational therapists. 64 She sent her own survey to 405 leaders and non-leaders and determined that the leaders, on a whole, had begun to lead early in life, were more active in sports and many had sponsors who helped them in their careers. They also had spent less time unemployed, married less frequently, and when married, had less children.

Shannon and Houston did a study comparing the personality

- 62. Marilyn Joan Kendall, The Role of Personality on Leadership Diminsions Among U. S. Army Adjutant General Corps Officers, University of South Carolina, 1981.
- 63. Jane Ann Dietl, A Study Reflecting the Dominant Personality Style Most Successful in Exemplifying Effective Situational Leadership Within a Corporate Organization, U. S. International University, 1981.
- 64. Winifred Phillips Scott, Variables Which Contribute to Leadership Among Female Occupational Therapists, University of California, 1981.

traits of college students between the years 1971-2 and 1977-8. For his study he chose 2,181 male and female undergraduate and graduate applicants to the College of Education at the University of Northern Colorado. 65 1,164 were from the 1971-2 school year and 1,017 were from the 1977-8 school year. All took Form A of the 16 PF. The results showed that the 1977-8 students were in general more extroverted, better adjusted, less radical, more suspicious, less tense, more assertive, more enthusiastic, more venturesome, more conscientious, more self-assured, more secure, more conservative than the 1971-2 students. Houston states, "It appears that the alienation, radicalism and dissatisfaction that seemed to affect college students in the late 1960's tended to decline in the 1970's." 66 However, he states that caution should be taken in inferring too much from these results.

Todd Hoover of Loyola University conducted a study to see if the 16 PF and/or grade point average could predict success in an Educational Media class. 67 For this study he chose 110 students who were enrolled in Educational Media during the school years 1975-6 and 1976-7. Most of these students were majoring in elementary education. All 110 students took the

65. L. R. Shannon and S. Houston, "Personality Factors of College Students from Two Different Enrollment Periods", Journal of Experimental Education, (Summer, 1980), p. 302.

66. Ibid., P. 306.

67. Todd Hoover, "Performance Prediction of Students in Teacher Education", Journal of Experimental Education, (Spring, 1979), p. 193.

16 PF. Hoover found that neither the 16 PF nor grade point average could be used as a predictor of success in this course.

Although Cattell sets separate norm tables for males and females, Stroup and Manderscheld found evidence that these are not really necessary. 68 In a study of 1,102 male college students and 1,047 female college students who had taken the 16 PF, they found only moderate differences between the two groups, so they concluded that sex differences are not important on the 16 PF. However, Cattell felt that even these modest differences were significant.

Jackson states that a number of studies in urban schools indicates a need for "strong instructional leadership" to make these schools successful. 69 To test this idea, he prepared a series of questions to assess the perceptions of administrators and teachers related to the instructional climate in their schools. These questions were based on the School Effectiveness Study. 70 The instrument was given at eighteen Washington, D. C. public schools in low income areas. Four of these schools were designated as successful and four were designated as unsuccessful

68. A. L. Stroup and R. W. Manderscheld, "Analysis, Sample, and Gender Variations in 16 PF Second-order Personality Factors", Journal of Experimental Education, (Winter, 1978-79), P. 118.

69. Shirley A. Jackson, David M. Logsdon and Nancy E. Taylor, "Instructional Leadership Behaviors: Differentiating Effective from Ineffective Low-Income Urban Schools", Urban Education, (April, 1983), p. 59.

70. Ibid., p. 60.

Success was determined by fifty percent or more of the students performing at or above fifty percent on the California Test of Basic Skills. The principals in the successful schools were seen by their teachers as more supportive of teachers, more assertive, involved in more areas of school life and more visible in the halls. The principals in the less successful schools were seen as more permissive and informal. This seems to back up the idea that strong leadership tends to lead to greater success in urban schools.

In personality testing, Auld stated that persons of the middle-class tend to get more favorable scores than lower-class subjects, but he stated that this is probably because of social factors, not that one group is "better adjusted" than the other.⁷¹ This factor should be considered when giving personality tests.

Marvin E. Shaw States several hypotheses to explain the dimensions of leadership. They are:

- (1) Persons who actively participate in the group are more likely to attain a position of leadership than those who participate less in the group's activities.
- (2) Possession of task-related abilities and skills enhances attainment of a position of leadership.

71. Frank Auld, The Influence of Social Class on Tests of Personality (Madison: Drew University, 1952), pp. 15-16.

- (3) Emergent leaders tend to behave in a more authoritarian manner than elected or appointed leaders.
- (4) The source of the leader's authority influences both the leader's behavior and the reactions of other group members.
- (5) Effective leaders are characterized by task-related abilities, sociability and motivation to be a leader.
- (6) Democratic leadership results in greater member satisfaction than autocratic leadership.
- (7) Leaders tend to behave in a more authoritarian manner in stressful than in nonstressful situations.
- (8) The degree to which the leader is endorsed by the group members depends upon the success of the group in achieving its goals.
- (9) A task-oriented leader is more effective when the group-task situation is either very favorable or very unfavorable for the leader, whereas a relationship-oriented leader is more effective when the group-task situation is only moderately favorable or unfavorable for the leader. 72

Shaw also states that he has found numerous studies that seem to indicate that the individual who attains a leadership role

72. Marvin E. Shaw, Group Dynamics (New York: McGraw Hill, 1981), pp. 343-4.

tends to exceed the average population in intelligence, scholarship, dependability in exercising responsibilities, participation in group oriented organizations and socioeconomic status. He mentions other studies that indicate the average leader excels in sociability, initiative, persistence, knowing how to get things done, self-confidence, insight, cooperativeness, popularity and adaptability. Shaw groups all of these abilities into three general categories - group goal facilitation (abilities necessary to attain goals, such as insight and intelligence), group sociability (abilities that are necessary to keep the group going, such as sociability and cooperativeness) and individual prominence (abilities related to the person's desire for recognition, such as initiative and self-confidence). 73 In short, he believes a potential leader must have organizational skills, he must be able to work well with others, and he must have the desire to be a leader.

Shaw discusses a study by Michener and Lawler related to how a group perceives a leader. They found that in general a leader was perceived to be successful if the group itself was successful, if reward distribution was hierarchical, and if the leader was not vulnerable to removal from office. 74 Shaw believed Michener and Lawler found these results because groups

73. Ibid., p. 325.

74. Ibid., p. 333.

tend to conform to majority opinion and it is difficult to argue with success.

In 1935, Tead listed ten elements that he said should be possessed by the "ideal" leader, and that were necessary to be present somewhat in all leaders. These elements were:

1. Physical and nervous energy
2. A sense of purpose and direction
3. Enthusiasm
4. Friendliness and affection
5. Integrity
6. Technical mastery
7. Decisiveness
8. Intelligence
9. Teaching skills
10. Faith 75

Related to faith in his endeavors, Tead later stated that to be successful, the leader "must cherish the firm conviction that the effort (of leadership) is worthwhile". 76

In his book, The Leader, Michael Maccoby defines the job of the leader as follows:

A successful leader draws out, promotes, and defends attitudes and values that are shared by members of the group, class or nation he leads. The leader's "vision"

75. O. Tead, The Art of Leadership, (New York: McGraw-Hill, 1935), p. 83.

76. Ibid., p. 258.

expresses goals in line with these values. Thus, he reinforces and may even infuse a sense of value in people who now feel that what they are doing has become valuable. There can be no single eternal model of successful leadership. 77

Thus, whatever the leader does that instills a sense of worth and accomplishment in the followers makes him a successful leader.

Maccoby feels that as times have changed, the type of leader who will succeed has changed. We all want someone who can solve all our problems, but we have come to reject the autocratic leader. He is not exactly sure what the new model of leadership will be, but he states, "Only if we are able to renounce the wish for authority, the leader who solves all problems, will we gain the clarity to choose leaders who encourage us to solve them together." 78 He goes on to state, "Leaders succeed only when they embody and express, for better or worse, values rooted in the social character of group, class or nation." 79 However, he sees this emerging leader as negative in some ways. Three negative traits are observed by Maccoby. The traits are:

an other-directed marketing orientation, alienation, detachment and disloyalty, where people tend to trade integrity for status: undisciplined self-indulgence and an escapist, consumer attitude, fantasy and compulsive

77. Michael Maccoby, The Leader, (New York: Simon and Schuster, 1981), p. 14.

78. Ibid., p. 22.

79. Ibid., p. 23.

entertainment which one rationalizes as self-fulfillment; cynical rebelliousness, and attitude of getting as much as one can by giving as little as possible, rationalized in terms of rights and entitlements . . . The negative character lacks a sense of self and meaning beyond satisfying limitless, enslaving "needs". 80

Maccoby does not see all modern leaders possessing these negative traits but does see this attitude as a barrier to effective leadership in the present. But the successful leader has to be fully aware of both positive and negative traits in both followers and other leaders in his organization, since all members of the organization are interrelated. Maccoby concludes his summary of leadership abilities by stating, "Leadership is achieved only by those who understand both their particular environment, including its social character, and their own capabilities." 81

In an extensive study of a variety of modern leaders, Maccoby concludes that the successful leaders of today share certain traits. He points out the following:

- (1) They are persuasive communicators.
- (2) They share common personality traits: intelligence, ambition, will, and optimism.
- (3) They have a critical attitude to traditional authority.
- (4) They are flexible, competent managers with a sense of

80. Ibid., pp. 42-3.

81. Ibid., pp. 59-60.

reality and its emotional equivalent, a sense of humor.

(5) They recognize that profit and effectiveness legitimate their leadership and that success motivates.

(6) They are not willing to gain power or money by going along with unethical practice or by pandering to the worst in people.

(7) They don't try to control everyone. 82

Maccoby feels that the gap between the successful modern leader and the failed leader is often one of training. Specifically, he feels the failure is in the area of the humanities. If we are to have better leaders, they must be better trained in the humanities, specifically writing, speaking, religion, ethical philosophy, depth psychology and history. He states:

The best modern managers are well educated in science and technology and perhaps law and the ahistorical social sciences, such as economics. But they know little history and lack a sense of what human development means over time . . . They are unaware that irrational rules and institutions were probably once rational solutions to a problem that no longer exists. 83

While these problems may not be as pronounced among more liberally educated persons in educational administration, the point is well taken that a training in humanities will

82. Ibid., pp. 220-223.

83. Ibid., p. 231.

help one to be more aware of one's society and how to function as a leader in that society.

Glennelle and Gerald Halprin did a study involving the 16 PF related to the attitudes and personality characteristics of education students. 84 They found earlier research that indicated that humanistic teachers, who were mainly concerned with the welfare of their students, tended to have less discipline problems and more teaching success than authoritarian teachers, who were more concerned with subject matter and following the rules. They wanted to determine if personality was a factor in this matter. They chose as subjects 110 students in an educational psychology course for education majors at a large Southeastern university. Of this number, forty nine were undergraduate students and sixty one were graduate students. All took the 16 PF, Form A; the Tennessee Self-Concept Scale and the Pupil Control Ideology Form. The Tennessee Self-Concept Scale tests overall level of self-esteem and the Pupil Control Ideology Scale tests on a continuum orientation between humanism and authoritarianism. The results were as follows: the humanistically oriented educators were emotionally stable, expedient, happy-go-lucky, imaginative, venturesome, outgoing, relaxed, self-assured and had a high

84. Glennelle and Gerald Halprin, "Personality Characteristics and Self-Concept and Preservice Teachers Related to their Pupil Control Orientation", Journal of Experimental Education, (Summer, 1982), pp. 195-6.

self-concept. The authoritarians were more affected by feelings, conscientious, sober, practical, shy, reserved, tense, apprehensive and had a lower self-concept. The Halprins hoped this profile would make it easier to identify which students are likely to become more humanitarian teachers and which are likely to become more authoritarian.

This and other similar studies indicate the 16 PF has been used in a great deal of research that does not relate directly to education but does show the possible uses of the questionnaire. Some of these studies attempt to use the 16 PF as a predictor of success in school courses or particular areas of study. Some use the 16 PF to form a model of certain behavior types, such as the one attempted in this paper for educational administrators.

A profile of a similar nature but with a different aim was prepared by Donald Sloat, Rex Leonard and Kenneth Urial Gutsch.⁸⁵ They attempted to produce a profile that could be used to identify potential drug abusers. They administered the 16 PF to forty known adolescent drug users at the "Mississippi Gulf Coast Drug Abuse Center" and to forty young people of similar ages who had no history of drug abuse. A personality profile of each type was made up. By

85. Donald Sloat, Rex Leonard and Kenneth Urial Gutsch, "Discriminant Analysis for Measuring Psychotherapeutic Change", Measurement and Evaluation in Guidance, (April, 1983), p. 38.

giving clients the 16 PF, therapists can then compare their results with the profiles to identify potential drug abusers.

Cattell states that the specific personality factors examined by the 16 PF have been carefully chosen and are comprehensive. He states:

They (the personality factors chosen) leave out no important aspect of the total personality, they are relatively independent of each other, and they are all known to be important in the sense of each having a wide influence on behavior. 86

Cattell on his 16 PF identifies one of his factors as "parmia". 87 Parmia is a characteristic that reflects outgoing sociability and emotional responsiveness, so it is an aspect of social sensitivity. 88 Parmia correlates positively with degree of acceptance in the group and amount of participation. 89 So the more outgoing individual tends to participate in the group and to be more concerned with group acceptance. Cattell states that on all forms of the 16 PF neurotics, alcoholics, narcotic addicts and delinquents are usually abnormally low on ego strength. 90

He also states that even though all the scales of the 16 PF have tested consistently, the four most stable factors are radicalism vs. conservatism and rationalism vs. emotional

86. Halprin, p. 196.

87. Shaw, p. 195.

88. Ibid., p. 207.

89. Ibid., P. 206.

90. Raymond Bernard Cattell, The Scientific Analysis of Personality, (Chicago: Aldine Publishing Company, 1966), p. 74.

attitudes. 91

One of the personality factors Cattell measures is intelligence, which yields a single score. However in other writings Cattell speaks of intelligence as having two forms - fluid and crystallized. 92 Fluid intelligence refers to the individual's ability to grasp and adaptability. Crystallized intelligence refers to that which one has learned through experience and education.

Getzels reports an interesting study by James M. Lipham for the University of Chicago in 1960. 93 Lipham chose eighty four school principals in a large Midwestern city. These were ranked for effectiveness by the Superintendent of Schools and four assistant superintendents, all of whom had direct contact with the subjects. The principals then completed the Edwards Personal Preference Schedule and the Malo Sentence Completion Test. The tests showed that in general the more effective principals were inclined to engage in strong and purposeful activity, have keen achievement and mobility drives, like social situations, are secure in home and work environments and have greater emotional control.

91. Raymond Bernard Cattell, Personality, a Systematic Theoretical and Factual Study, (New York: McGraw Hill, 1950), p. 35.

92. Steven V. Owen, H. Parker Blount and Henry Moscow, Educational Psychology, (Boston: Little Brown, 1978), p. 70.

93. Jacob W. Getzels, James M. Lipham and Roald F. Campbell, Educational Administration as a Social Process, (New York: Harper and Row, 1968), pp. 231-3.

Astin sent his own opinion questionnaire to 299 college administrators. 94 The general tone he found regarding the administrators' perceptions of their jobs was optimistic. The higher the position, the greater the job satisfaction indicated by the subjects. The qualities these administrators most valued in subordinates were initiative, cooperation and professional competence.

Richard Mann investigated the importance of dominance in leadership. Surveying twelve separate studies, he found that seventy three percent of the administrators questioned said that dominance was important to effective leadership. 95 Ewing sees a relationship between dominance and political power. He states that for a leader to remain in control for a long period of time, he must have both political power and dominance.

These studies and theories demonstrate many of the uses of the 16 PF and other personality tests of a similar nature. As many areas of this subject as possible which relate in some way to educational administration were covered. Some of these studies will be referred to again later in this paper and similarities will be drawn between them and the results of the research. Several other studies using the 16 PF are

94. Alexander W. Astin, Maximizing Leadership Effectiveness, 1980, p. 20.

95. Ewing, p. 204.

available, but none of them relate directly to the research project reported in this paper.

SUMMARY

The first section of this chapter indicates that although there are a large number of theories regarding leadership, there does not seem to be a general concensus of opinion about what constitutes an effective leader. The second part of the chapter indicates the many uses that have been made of the 16 PF and other personality tests in this field. The research indicates the accuracy of the 16 PF, and demonstrates that a wide variety of personality factors can be identified.

CHAPTER III

PROCEDURES

INTRODUCTION

This chapter describes the procedure followed in administering the instruments described in the last chapter and the statistical methods used with this material. The first thing to be discussed will be the selection and number of participants in the survey. Next the two instruments, Cattell's 16 Personality Factors Questionnaire and the demographic questionnaire, will be described in detail. The next thing to be discussed will be the administration and scoring of the questionnaires. Then the statistical methods to be employed will be described and explained.

SELECTION OF PARTICIPANTS

As subjects for this study, two hundred fifty educational administrators were selected at random from the Suburban School Guide for Cook County, Illinois. 1 This sample consisted of one hundred fifty principals, fifty assistant superintendents

1. Suburban School Guide, Cook County

and fifty superintendents, in both elementary and secondary schools. Each administrator was given a copy of Cattell's Sixteen Personality Factors questionnaire and demographic questionnaire. From the initial sample of two hundred fifty participants, ninety eight responded.

INSTRUMENTS

The Cattell test was chosen for several reasons. First of all, since administrators are usually pressed for time, the Cattell test is useful because it is simple and easy to administer. Secondly, scoring is relatively simple. 2 Thirdly, the questionnaire examines such characteristics of leadership ability as intelligence, compassion for subordinates and other important aspects of the individual personality. 3

The Cattell test is also useful because it is a multivariate test. A multivariate test analyses many measurements on one person, instead of one variable or process at a time. 4 For this reason, many aspects of the leadership ability of an administrator can be analyzed at one time, and separately correlated to detect a pattern of similarities.

2. Samuel Karson and Jerry O'Dell, Clinical Use of the 16_P_F, (Champaign: Institute for Personality and Ability Testing, 1976), p. 3.
3. Ibid., p. 33.
4. Raymond Bernard Cattell, The Scientific Analysis of Personality, (Chicago: Aldine Publishing, 1966), p. 21.

Cattell chose his sixteen factors very carefully. First he assembled a lengthy list of personality traits taken from both the dictionary and from psychiatric and psychological literature. After combining obvious synonyms, he was left with a list of 171. Then

the 171-trait list was employed in obtaining associates' ratings of a heterogeneous group of one hundred adults. Intercorrelations and factor analysis of these ratings were followed by further ratings of 208 men on a shortened list. 5

Factorial analysis of these ratings then reduced the list to the sixteen factors used today. Shontz described the method used:

The resulting measures are intercorrelated to determine which tests or numerical indices belong together as factors. For example, twenty scales of twenty items each might be administered to a large sample of subjects. Suppose that a factor analysis of the resulting data indicated that most of the differences among subjects on these scales could be accounted for by four independent factors. The investigator is then in a position to construct four new instruments of twenty items each that will distinguish among individuals as effeciently . . . 6

but with far fewer questions.

The questionnaire itself consists of 167 questions. Each question is a three selection multiple choice question. Each of the sixteen items can be scored either by hand or by machine, and these raw scores are then converted to stens by use of a

5. Anne Anastasi, Psychological Testing, (New York: Macmillan, 1976), p. 509.
6. Franklin C. Shontz, Research Methods in Personality, (New York: Appleton-Century-Crofts, 1965), p. 111.

series of norm tables which consider age, sex and the form of the test given. 7 Each factor is distributed on a continuum from one to ten, with an "average population" score of 5.5. Sten scores of 1, 2, 3, and 8, 9, 10 are considered significant, in that "they are more extreme and occur far less frequently in a normal population". 8

The sixteen Primary Factors are each given an alphabetic designation, and the continuums are as follows: 9

Factor A: Reserved vs. warmhearted. Low scorers on Factor A tend to be stiff, cool, skeptical and aloof and prefer things to people. High scorers on Factor A are easygoing, adaptable and prefer dealing with people and social situations.

Factor B: Less intelligent vs. more intelligent. The low Factor B individual tends to be concrete-thinking, has lower scholastic capacity, is slow to learn and grasp ideas. The high Factor B individual is abstract-thinking, a fast learner and grasps ideas quickly.

Factor C: Affected by feelings vs. emotionally stable. The low Factor C individual is emotionally less stable, easily upset and changeable. The high Factor C individual is mature, calm, patient and faces reality.

Factor E: Humble vs. assertive. The low Factor E individual is mild, accommodating, easily led and often dependent and passive. The high Factor E person is aggressive, competitive, self-assured and dominant.

Factor F: Sober vs. Happy-go-lucky. The low Factor F individual is serious, taciturn, pessimistic and restrained. The high Factor F individual is impulsive, enthusiastic, lively, talkative and frank.

7. IPAT Staff, Administrator's Manual for the 16 PF, (Champaign: Institute for Personality and Ability Testing, 1970), p. 17.
8. Ibid., p. 17.
9. Ibid., p. 20-27.

Factor G: Expedient vs. conscientious. The low Factor G individual tends to disregard rules and feels few obligations to others. His refusal to be bound by rules can make him more difficult to work with in a group, but can make him more effective as an individual worker. The high Factor G person is rule-bound and dominated by a sense of duty. He hard working and rarely wastes time.

Factor H: Shy vs. venturesome. The low Factor H person restrained, timid and cautious. He frequently has feelings of inferiority and shies away from large groups and personal contacts. The high Factor H individual is uninhibited, spontaneous and ready to try new things. However, he is also frequently heedless of danger signs and domineering with others who are less socially bold.

Factor I: Tough-minded vs. tender-minded. The low Factor I individual is self-reliant, realistic and responsible. He tends to be cynical and tolerant of no nonsense. The high scorer is intuitive, sensitive, fanciful and temperamental and given to day-dreaming and interests of an artistic nature.

Factor L: Trusting vs. suspicious. The low Factor L individual is free of jealousy and easy to get along with. He is tolerant, non-competitive and a good team worker. The high Factor L individual is skeptical, questioning, hard to fool and more interested with his own internal life than the people and things around him.

Factor M: Practical vs. imaginative. The low Factor M scorer is careful, conventional and practical, overly concerned with details and unimaginative. The high Factor N person is careless of practical matters and unconventional, but tends to be self-motivated and highly individual.

Factor N: Forthright vs. shrewd. The low Factor N scorer is natural, genuine and unpretentious and demonstrates natural warmth and a natural liking for people. The high scorer is polished, calculating and shrewd and is unsentimental in his approach to people and situations.

Factor O: Unperturbed vs. apprehensive. The low Factor O individual is self-assured, confident and secure with a mature attitude toward himself and others. The high Factor O scorer is worrying, troubled and often feels anxious and guilt-stricken, even in situations over which he has no control.

Factor Q1: Conservative vs. experimenting. The low Factor Q1 person has great respect for established ideas and traditions and is extremely cautious regarding new ideas. He tends to oppose change and prefers to do things "the way they have always been done". The high scorer is more liberal and innovative. He is more willing to experiment and more tolerant of change.

Factor Q2: Group oriented vs. self-sufficient. The low Factor Q2 person needs group support and so tends to join groups and rely on others. The high scorer is independent, resourceful and prefers making his own decisions. Since he is less dependent on the support of a group, he is less likely to affiliate with groups voluntarily.

Factor Q3: Undisciplined self-conflict vs. Controlled. The low Factor Q3 person is impetuous and not overly considerate of others. He tends to follow his own urges, regardless of the consequences. The high scorer is compulsive and socially precise. He has strong control of his emotions and has high regard for his social reputation.

Factor Q4: Relaxed vs. tense. The low Factor Q4 person is tranquil and unfrustrated, relaxed and composed. The high Factor Q4 person is frustrated, driven, restless and overwrought. He is often fatigued, but cannot remain inactive.

In addition to the 16 Primary Factors, the questionnaire also indicates four Second-order Factors, described below. 10 These second-order traits are computed by adding the already computed sten scores, and indicated how the factors are interrelated, and show, as Cattell states, "very broad influences". 11 Although these scores are not as important as the primary scores, they are worth investigating as well.

10. IPAT, pp. 27-33.

11. Raymond Bernard Cattell, The Scientific Analysis of Personality, (Chicago: Aldine Publishing Company, 1966), p. 101.

The four factors are as follows:

Factor Qi: Introversion vs. extraversion. The low Factor Qi person is shy, self-sufficient and inhibited in social situations. The high Factor Qi person is socially outgoing, uninhibited and comfortable in social situations.

Factor Qii: Low anxiety vs. high anxiety. The low Qii person is generally well adjusted and able to achieve most of what he strives for. The high Qii person is dissatisfied with what he is able to achieve. This dissatisfaction may be neurotic or situational, and can in itself contribute to disruptive performance.

Factor Qiii: Tender-minded emotionality vs. tough poise. The low Qiii person is extremely emotional and easily discouraged and frustrated. He is likely to be artistic and gentle, and to spend much time and thought on how to solve problems and less time on acting to solve them. The high Qiii individual is enterprising, decisive and resilient. However, he tends to miss subtleties and reacts only to the obvious.

Factor Qiv: Subduedness vs. independence. The low Qiv person is group dependent and passive. The high Qiv person is aggressive, independent and incisive. The high scorer tends to be an active participant in life and exhibits considerable initiative.

Although it would be possible to describe each of these factors in much greater detail, the above descriptions should be useful in understanding the results of the questionnaire survey described in the next chapter.

In addition to the Cattell questionnaire, each subject received a demographic questionnaire. (See Appendix B.) This simple, one-page form asks for basic information on such things as family background, educational background and other personal information that might be useful in determining what causes an individual to aspire for a leadership position.

ADMINISTRATION OF INSTRUMENTS

All subjects were mailed the two questionnaires and a self-addressed, stamped envelope. They were asked to complete the two forms and return them. Of the 250 subjects, ninety eight responded. Of those responding, fifty five were principals, twenty six were assistant superintendents and seventeen were superintendents.

After the questionnaires were returned, graded and scored, a raw score was found for each of the sixteen personality traits. These raw scores were adjusted relative to a scale provided with the test to detect "faking good" and "faking bad". These scores are determined from the responses to certain test items which are placed in the test to detect attempts to deceive. All answer sheets do not require "faking good" or "faking bad" corrections, but those corrections were made when needed. Final raw scores were then determined.

These raw scores were then converted into sten scores. Sten, or "standard ten" scores are distributed over ten equal-interval standard score points (assuming normal distribution) from 1 through 10, with the population average or mean fixed at 5.5. Stens 5 and 6, which constitute the center of the population, fall a half standard deviation below or above the norm. The farthest limits, Stens 1 and 10, are 2 1/2 standard deviations below and above the mean. Stens running from 4 to 7 would be considered average. Stens of

1, 2 and 3 and 8, 9 and 10 are the extremes and are considered significant because they occur less frequently in the general population. 12 The significant scores that will be discussed in this paper are stems of 1, 2, and 3 and 8, 9 and 10.

The IPAT Tabular Supplement #1 to the 16 PF Handbook presents a number of norm tables that can be used for comparison with the subject population. The norm tables are provided in three groups: high school students, university and college undergraduate students, and the general adult population. Norm tables for each of these groups are further subdivided into separate tables for Forms A, B and the two combined. The form used for this study is Form A. In each subdivision there are further separate tables for males, females, and for males and females combined. 13

The data which led to the development of the norm tables was collected from a sampling across ten levels of community size ranging from 2,500 to more than a million, and covering two levels of socioeconomic status, geographical location and race. The fifty states were divided into the same ten regions that are used by the United States Census Bureau. The results from each region were weighted according to the region's proportion of the total population of the United States. The

12. IPAT Staff, p. 17.

13. Ibid., pp. 17-19.

racial proportions for the final norm groups are also determined by the proportion found by the United States Census Bureau. The age range of the final norm group was from fifteen to seventy years of age. The norm for the general adult population is centered on age 30, the high school population is centered on age seventeen and the college population is centered on age twenty. All scores can easily be compared to these norm tables. 14

STATISTICAL METHODS

Frequencies were run on all scores for the population on a whole and for each individual group for each variable. The mean and standard deviation was discovered for each variable for the population as a whole and individually. The correlation coefficients were figured correlating the 16 scores with each other. A general lineal model was done on the data and means were established for each score for each of the variables. Univariate statistics were run to establish moments, quantiles, extremes and normal probability plots for each score. The main effects were tested by Tukey's test for variable (0.05). These tests were used for all scores and all variables. A linear regression was figured regarding the predictive value of years of experience, using a general linear models procedure.

14. Ibid., pp. 18-19.

After the results of the two questionnaires were tallied, twenty two of the administrators were personally interviewed to see if these interviews revealed a similar personality to the results of the 16 PF. These administrators were randomly chosen from the ninety eight who originally filled out the questionnaires. This was done as a follow-up to the written material. Each administrator was asked questions regarding his/her personal attitude toward administration and his/her own reaction to the personality survey. The following is the list of questions answered by the interviewees.

- (1) What personality characteristics do you feel are most important for an educational administrator? Why?
- (2) Do you feel you possess these characteristics? To what degree?
- (3) Do you feel that your personality assessment according to the 16 PF is accurate? How is it correct and how is it incorrect?
- (4) How would you describe your leadership style?
- (5) Is the style one uses dictated by the school situation? Could you give an example of this?
- (6) What could be done in the future to better train prospective administrators for the conditions they will

face in today's schools?

The following chapter will discuss the results of the methods described in this chapter. The first part of the chapter will cover the correlation between the 16 PF results and the answers to the demographic questionnaire. The personal interviews will then be discussed and compared with the statistical results found in the first part of the chapter.

SUMMARY

The preceding chapter discussed several aspects of the study. Ninety eight of the two hundred fifty individuals to whom questionnaires were sent responded. After the responses were received, several statistical methods were used on this material. Frequencies were run for all scores for the population as a whole and for each individual group for each variable. Means and standard deviations were figured for the group as a whole and for each variable. Correlation coefficients were figured for all 16 scores, as well as a general lineal model. Means were established for each score and univariate statistics were run for several statistics. All main effects were tested with Tukey's test for variable and Scheffe's test for variable. The results of these computations will be discussed in the next chapter.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

INTRODUCTION

The data obtained by the two questionnaires were analyzed using several statistical methods. Frequencies were run for for each of the variables. Zero-order correlation coefficients were prepared to correlate the individual scores with one another. Statistics were then tested for main effects using the General Linear Models Procedure. In the next part of the chapter, the demographic variables were tested with each of the individual scores in order to ascertain what patterns would appear. Several tables are included to illustrate these statistics. Then a profile was drawn of the "average" administrator, as indicated by the statistics for the population as a whole and for each individual group. In the final section of the chapter, twenty two personal interviews with respondents will be discussed.

TESTING THE HYPOTHESIS

The hypothesis to be tested is that certain personality types are attracted toward leadership. The frequencies procedure was used in this paper to produce a table of frequency counts

and percentages for the values of individual variables. 1
Statistics printed are frequency, cumulative frequency,
percent and cumulative percentage. Frequencies were run for
the statistics as a whole and for each variable. Several
interesting statistics were discovered. Each of the score
variables will be discussed seperately for the entire population.

Score A - Cool/Warm showed a wide variety of scores.
17.3% scored 4, 15.3% scored 5, 12.1% scored 6, 11.2% scored 7,
13.25 scored 8 and 9% scored 9.

Score B - Concrete thinking/Abstract thinking showed a
more significant statistic. 32% scored 8 and 18% scored 10.
Therefore, better than 50% of the population were significantly
high in abstract thinking.

Score C - Affected by feelings/Emotionally stable showed
a slightly higher concentration for emotional stability. 16.3%
scored 5, 33.7% scored 6 and 18.3% scored 7.

Score E - Submissive/Dominant showed higher tendencies
toward dominance. 15.3% scored 7 and 19.4% scored 8.

Score F - Sober/Enthusiastic had a wide variety of
scores. The scores were slightly higher in favor of enthusiasm.
15.3% scored 5, 28.6% scored 6 and 16.3% scored 7.

Score G - Expedient/Conscientious was wide spread. 15.3%
scored 4, 15.3% scored 5, 25.5% scored 6, 16.3% scored 7 and

17.3% scored 8.

Score H - Shy/Bold has a wide variety of scores, but tends more toward bold. 14.2% scored 6, 25.5% scored 7, 13.2% scored 8 and 11.2% scored 9.

Score I - Tough-minded/Tender-minded also has a variety of scores, but there is some concentration toward tender-minded. 14.2% scored 5, 26.5% scored 6, 12.2% scored 7, 14.2% scored 8, 6% scored 9 and 14.2% scored 10.

Score L - Trusting/Suspicious shows the highest frequencies in the middle of the scale. 23.4% scored 5 and 18.3% scored 6.

Score M - Practical/Imaginative shows some concentration toward the imaginative. 19.3% scored 5, 22.4% scored 6, 22.4% scored 6, 22.4% scored 7 and 18.4% scored 8.

Score N - Forthright/Shrewd is centrally distributed. 26.5% scored 4, 17.3% scored 5 and 20.4% scored 6.

Score O - Self-assured/Apprehensive is widely distributed, but the concentration is higher toward self-assured. 32.7% scored 4, 21.4% scored 5 and 17.3% scored 6.

Score Q1 - Conservative/Experimenting shows a slight edge in favor of experimenting. 23.5% scored 6 and 17.3% scored 7.

Score Q2 - Group-oriented/Self-sufficient shows some concentration toward self-sufficient. 25.5% scored 6, 21.4% scored 7 and 17% scored 8.

Score Q3 - Undisciplined self-conflict/Controlled is

slightly skewed toward control. 20.4% scored 5, 25.5% scored 6 and 20.4% scored 7.

Score Q4 - Relaxed/Tense had wide variety, but perhaps a little higher toward relaxed. 19.4% scored 4, 25.5% scored 5, 15.3% scored 6 and 17.3% scored 7.

The means and standard deviations were figured for all variables. Significant statistics were: Score B - Concrete thinking/Abstract thinking, mean 7.68, standard deviation 1.63; score E - Submissive/Dominant, mean 6.63, standard deviation 2.67; and Score I - Tough-minded, mean 6.64, standard deviation 2.14. (See appendix.)

Zero-order correlation coefficients were prepared to correlate the individual scores with one another, i.e., to show if certain scores often occurred paired with other scores, or the opposite. Several scores seem to be interrelated. Correlation scores higher than + or - 0.35 are reported. The correlation between Score A - Cool/Warm correlates with Score F - Sober/Enthusiastic is 0.38335. Score B - Concrete thinking/Abstract thinking has a negative correlation of -0.37068 with Score C - Affected by feelings/Emotionally Stable. Score E - Submissive/Dominant correlates with Score H - Shy/Bold at 0.39809. Score F - Sober/Enthusiastic has a 0.43645 correlation with Score H - Shy/Bold. Score G - Expedient/Conscientious correlates negatively (-0.36667) with Score C - Affected by

feelings/Emotionally Stable; and positively (0.511168) with Score F - Sober/Enthusiastic. Score H - Shy/Bold has a negative correlation (-0.42120) with Score O - Self-assured/Apprehensive. Score O also has a negative correlation (-0.35094) with Score M - Practical/Imaginative. Score N - Forthright/Shrewd correlates negatively (-0.37968) with Score Q1 - Conservative/Experimenting. Score O correlates negatively with Scores C (-0.37068), H (-0.42120) and M (-0.35094), but positively (0.39822) with Score Q4 - Relaxed/Tense. Score Q1, Conservative/Experimenting also has a negative correlation (-0.3667) with Score G - Expedient/Conscientious, as well as Score N. Score Q3 - Undisciplined self-conflict/Controlled correlates (0.51168) with Score G. Score Q4 - Relaxed/Tense correlates at 0.39822 with Score O - Self-assured/Apprehensive.

Statistics were tested for main effects using the General Linear Models Procedure. The General Linear Models Procedure can perform analysis of variance and analysis of covariance. 2 It can also estimate multivariate regressions and obtain principal components, discriminant function coefficients, canonical correlations and other statistics. Interactions between factors and interval variables can also be analyzed. In addition, a boxplot can be plotted for each interval

2. Ibid., p. 495.

variable. 3 Boxplots provide a simple graphic means of comparing the cells in terms of mean location and spread. A normal plot can also be planned for each variable. The scores of each variable is ranked and plotted against the expected norms for that rank. These plots aid in detecting non-normality. The means and standard deviations can also be obtained. The sum of the squares is also determined. Multivariate Multiple Regressions are also possible. A stem-and-leaf display can be plotted for each variable. This display is a histogram that preserves the data scores. This procedure obviously is extremely useful in analyzing data.

These results were tested using Tukey's Test for Variables and Scheffe's Test for Variables. Tukey's Test for Variables (Additivity) is used to detect the presence of interaction effects. It is a test for the equality of multivariate means. 4 A significant difference of .05 is available on this test. This test then can point out those areas of comparison that are significant. Scheffe's Test indicates a number between 0 and 1. The significant difference shown is .05. 5 It is in some ways similar to Tukey's Test, although there are differences. The decision was made to use both of these tests so that no significant statistics could be

3. Ibid., p. 465.

4. Ibid., p. 494.

5. Ibid., p. 495.

overlooked. Both the Tukey's Test and the Scheffe's Test determine the difference between the means regarding the variables. The comparisons that follow are significant at the 0.05 level.

DEMOGRAPHIC VARIABLES

The first variable that was tested was position. The positions considered were Superintendent, Assistant Superintendent and Principal. Both tests indicated a significant difference in Score N - Forthright/Shrewd. The difference between the means was particularly high between Superintendents and Principals - 1.6111 on both tests. This again indicates that Assistant Superintendents tend to be more shrewd than Principals, and Superintendents tend to be more shrewd than Assistant Superintendents.

The statistics were figured using the General Linear Models Procedure as well. 6 In comparing the variables, the General Linear Models Procedure indicated certain differences. The average scores among Superintendents, Assistant Superintendents and Principals showed certain significant differences. Score A - Cool/Warm indicated a higher degree of warmth, particularly for Superintendents. Superintendents scored 7.0, Assistant Superintendents 5.73 and Principals 5.94 - showing little difference between the Assistant Superintendents

6. Ibid., p. 723.

and the Principal. Score N - Forthright/Shrewd indicates Superintendents are more shrewd, with a score of 6.22. Assistant Superintendents scored 5.46 and Principals scored 4.61. Another difference was to be found in Score Q1 - Conservative/Experimenting. Superintendents were more conservative, with a score of 4.78; Assistant Superintendents and Principals were less so with corresponding scores of 5.73 and 5.28.

Table #1 shows the results obtained from this comparison. Means and standard deviations are listed for each category and each variable. The P value is also listed for each variable. The Tukey and Scheffe scales only indicate Score N as showing a significant difference. Table #2 shows this information in graph form.

The same statistics were then run using the variable of age. The age groups considered were 25 to 45, 46 to 55 and over 55. The interesting information obtained in this series of tests was that there did not seem to be any significant differences based on age. No scores registered a comparison level of 0.05. Table #3 illustrates this information as in the comparison above. P values indicate no significant differences.

The General Linear Models Procedure was followed again using the variable of type of school in which the administrators served. The three levels were elementary school, secondary

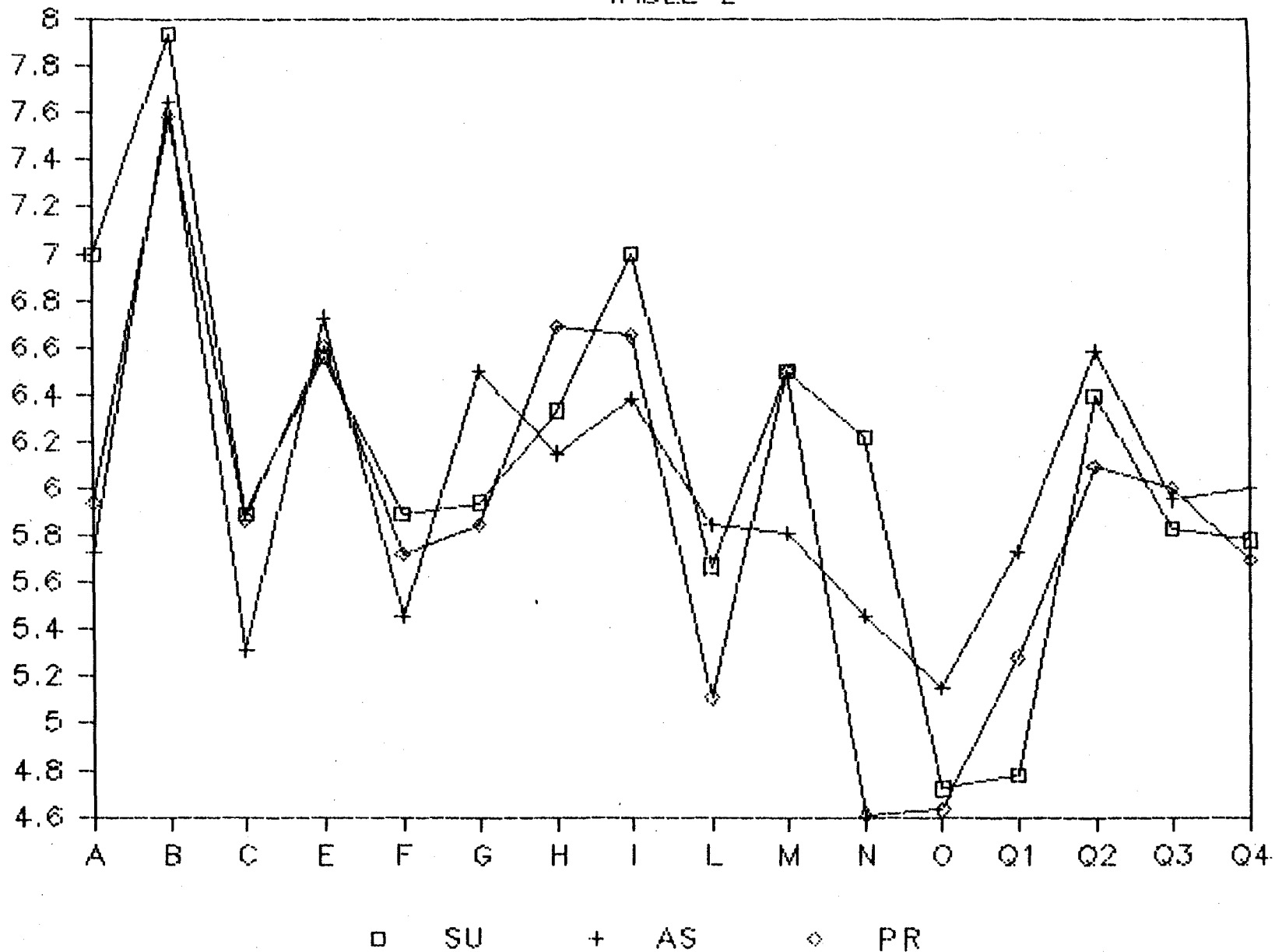
POSITION OF LEADERS

Table 1

<u>Variable</u>	<u>Superinten.</u>	<u>Asst. Super.</u>	<u>Principal</u>	<u>P Value</u>	<u>Significance</u>
A	7.00/2.22	5.73/2.38	5.94/2.27	0.16	
B	7.94/1.11	7.65/1.62	7.59/1.79	0.73	
C	5.89/1.57	5.31/1.16	5.87/1.65	0.27	
E	6.56/2.38	6.73/2.13	6.61/1.97	0.96	
F	5.89/2.03	5.46/1.92	5.72/1.84	0.74	
G	5.94/1.80	6.50/1.94	5.85/1.64	0.30	
H	6.33/2.33	6.15/2.09	6.69/1.55	0.46	
I	7.00/1.94	6.38/2.00	6.65/2.28	0.65	
L	5.67/2.20	5.85/1.80	5.11/1.98	0.25	
M	6.50/1.54	5.81/1.88	6.50/1.75	0.23	
N	6.22/1.80	5.46/1.94	4.61/1.83	0.004	*
O	4.72/1.45	5.15/1.76	4.63/1.43	0.35	
Q1	4.78/2.10	5.73/2.11	5.28/1.88	0.29	
Q2	6.39/1.94	6.58/1.84	6.09/1.90	0.54	
Q3	5.83/1.92	5.96/1.22	6.00/1.70	0.93	
Q4	5.78/1.59	6.00/1.83	5.69/1.76	0.75	

POSITION OF LEADERS

TABLE 2



AGE OF LEADERS

Table 3

<u>Variable</u>	<u>25 to 45</u>	<u>46 to 55</u>	<u>Over 55</u>	<u>P Value</u>	<u>Significance</u>
A	5.75/2.44	6.38/2.32	6.15/2.23	0.57	
B	7.84/1.87	7.81/1.44	7.45/1.55	0.53	
C	5.78/1.34	6.00/1.47	5.50/1.69	0.42	
E	7.19/1.82	6.54/2.35	6.25/2.01	0.16	
F	5.56/2.02	5.85/1.74	5.67/1.90	0.85	
G	6.16/1.89	6.04/1.78	5.95/1.68	0.89	
H	6.66/1.93	6.23/2.25	6.50/1.52	0.69	
I	6.72/2.22	6.92/2.12	6.40/2.11	0.61	
L	5.63/1.81	5.54/2.06	5.15/2.08	0.56	
M	6.03/2.01	6.38/1.55	6.50/1.68	0.52	
N	5.00/2.29	4.92/2.02	5.38/1.58	0.59	
O	4.91/1.42	4.58/1.47	4.82/1.66	0.71	
Q1	5.50/1.70	5.46/2.16	5.05/2.10	0.57	
Q2	5.25/1.98	6.19/1.83	6.35/1.87	0.94	
Q3	6.03/1.73	5.81/1.36	6.00/1.71	0.86	
Q4	5.78/1.74	5.42/1.72	6.02/1.75	0.39	

school and both. Using the Tukey's and Scheffe's Tests, a significant difference was found for Score I - Tough-minded/Tender-minded. The elementary school administrators were significantly less tender-minded, with a mean score of 6.13, than the secondary school administrators, with a mean score of 7.4. Table #4 displays the information obtained on this variable. The P value indicates Variable I as the only one showing significant difference. Table #5 illustrates this information in graph form.

The next variable treated with the same statistical methods was level of education. There were four levels used in this paper: Masters, Ed.D, Ph.D., and a final category for any others that did not fit in the first three categories. A significant difference was found on Score A - Cool/Warm. Those with a Masters degree had a mean score of 5.23. The Ed.D. and Ph.D. individuals scored significantly warmer, at 7.44 and 6.55, respectively. Another significant difference was found on Score Q2 - Group-oriented/Self-sufficient. Those individuals with a Masters had a mean of 6.193. The Ph.D holders scored a more group-oriented 5.67. The "others" category was the most group-oriented, with a score of 4.67. Table #6 displays this information. The P value indicates only Variable Q2 as significantly different. Table #7 illustrates this information in graph form.

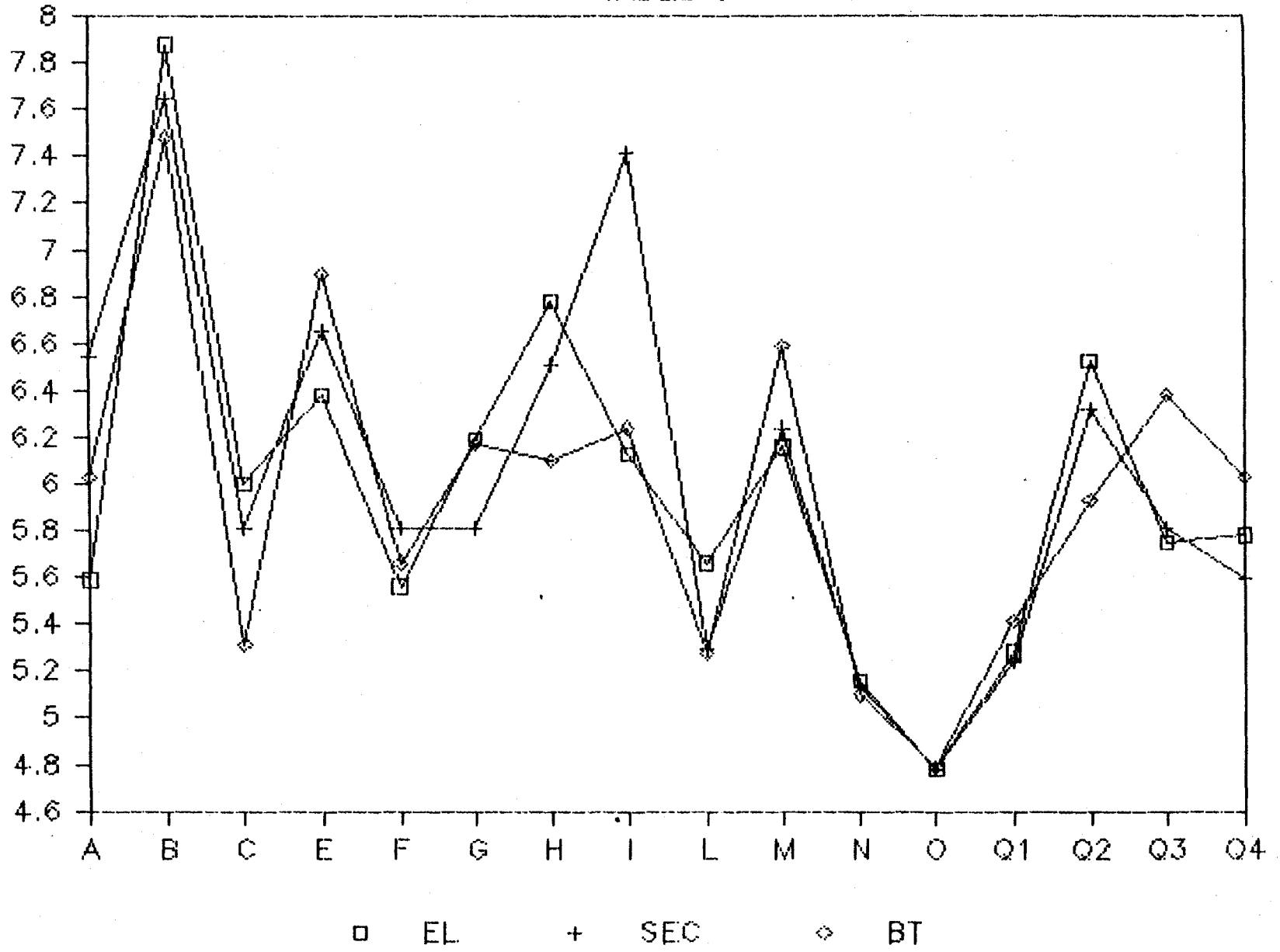
TYPE_OF_SCHOOL

Table 4

<u>Variable</u>	<u>Elementary</u>	<u>Secondary</u>	<u>Both</u>	<u>P Value</u>	<u>Significance</u>
A	5.59/2.24	6.54/2.44	6.03/2.16	0.24	
B	7.88/1.50	7.65/1.75	7.48/1.64	0.64	
C	6.00/1.55	5.81/1.27	5.31/1.75	0.19	
E	6.38/2.25	6.65/2.04	6.90/1.92	0.62	
F	5.56/1.81	5.81/1.93	5.66/1.95	0.86	
G	6.19/1.93	5.81/1.85	6.17/1.44	0.61	
H	6.78/2.17	6.51/1.68	6.10/1.70	0.36	
I	6.13/2.12	7.41/1.94	6.24/2.18	0.02	*
L	5.66/2.24	5.30/1.82	5.28/1.93	0.69	
M	6.16/1.57	6.24/2.11	6.59/1.45	0.61	
N	5.16/1.92	5.14/1.72	5.10/2.27	0.99	
O	4.78/1.70	4.78/1.49	4.79/1.42	0.999	
Q1	5.28/1.57	5.24/2.23	5.41/2.13	0.94	
Q2	6.53/1.95	6.32/1.81	5.93/1.91	0.46	
Q3	5.75/1.74	5.81/1.66	6.38/1.37	0.25	
Q4	5.78/2.06	5.59/1.52	6.03/1.64	0.60	

TYPE OF SCHOOL

TABLE 5



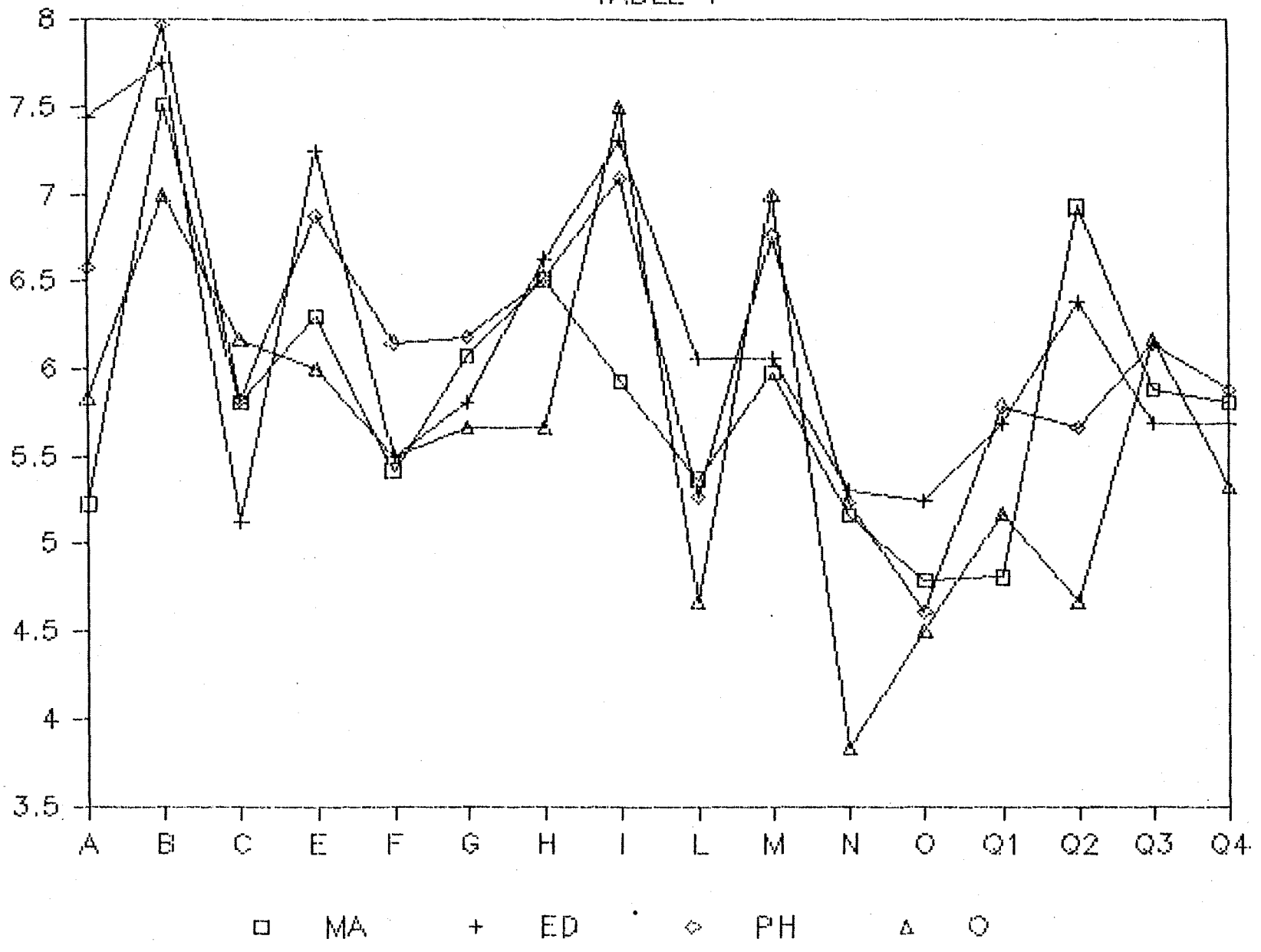
LEVEL OF EDUCATION

Table 6

Variable	Masters	Ed. D	Ph. D	Other	F Value	Significance
A	5.23/2.34	7.44/1.93	6.58/2.09	5.83/2.14	0.001	*
B	7.51/1.68	7.75/1.53	7.97/1.45	7.00/2.45	0.47	
C	5.81/1.55	5.13/1.96	5.82/1.31	6.17/0.98	0.36	
E	6.30/2.09	7.25/1.91	6.88/2.18	6.00/1.41	0.32	
F	5.42/1.85	5.50/2.22	6.15/1.54	5.50/2.74	0.38	
G	6.07/1.89	5.81/1.68	6.18/1.79	5.67/0.52	0.86	
H	6.51/1.74	6.63/2.31	6.52/1.79	5.67/2.07	0.74	
I	5.93/1.94	7.31/1.74	7.09/2.36	7.50/1.97	0.03	
L	5.37/1.98	6.06/1.69	5.27/2.14	4.67/1.86	0.44	
M	5.98/1.91	6.06/1.77	6.76/1.52	7.00/1.41	0.17	
N	5.16/1.54	5.31/1.82	5.24/2.46	3.83/1.47	0.41	
O	4.79/1.58	5.25/1.88	4.61/1.30	4.50/1.38	0.55	
Q1	4.81/1.93	5.69/2.27	5.79/1.92	5.17/1.47	0.16	
Q2	6.93/1.65	6.38/1.86	5.67/1.87	4.67/1.97	0.003	*
Q3	5.88/1.55	5.69/1.92	6.15/1.66	6.17/1.17	0.78	
Q4	5.81/1.83	5.69/1.70	5.88/1.78	5.33/1.03	0.90	

LEVEL OF EDUCATION

TABLE 7



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When position and level of education are compared with the 16 PF scores, several significant differences are found. The range of means on Score I - Tough-minded/Tender-minded went from 5.6 for principals with a Masters degree to 8.6 for principals with a Ph.D. Another significant difference was found on Score N - Forthright/Shrewd. The range was 3.5 for assistant superintendents with an Ed.D. to 6.6 for a superintendent with a Ph.D. This backs up the statistics mentioned earlier in this paper regarding position, which showed superintendents significantly more shrewd. Score Q1 - Conservative/Experimenting range from 1.0 for a superintendent with a Masters to 8.0 for an assistant superintendent with an Ed.D., although it would be difficult to attach significance to this fact. The last significant difference was found on Score Q2 - Group-oriented/Self-sufficient. The range was from 4.4 to 8.0, but the spread between these extremes showed no pattern.

The next General Linear Models Procedure involved a linear regression on the predictive value of years of experience. Years of experience were recorded on the questionnaire in exact years instead of categories. No significant differences were found related to years of experience, just as no significant differences were found related to age.

By using the means for the entire population, one can construct a profile of the "average" or typical administrator.

Please refer to Table #8. In analyzing this profile, three reference books were used: A Guide to the Clinical Use of the 16 PF , The Administrator's Manual for the 16 PF and Norms for the 16 PF Forms A and B . Score A indicates that the average administrator is outgoing, kindly and likes people. These people are highly adaptable and are not afraid of criticism. Score B indicates that they are bright and abstract thinking. They are fast learners and grasp ideas easily. On Score C, the profile shows the average leader right in the middle between those who are emotionally less stable and those who are more mature. Score E indicates the average leader is dominant, assertive and aggressive. These are independent thinkers who disregard those with authority over them. Score F indicates the average is between sober and enthusiastic, with no dominance on either side. Score G - Expedient/Conscientious - again indicates that the average falls in the middle. Score H, between shy and bold, indicates that the average administrator leans slightly toward boldness. Score I indicates the profiled individual tends to be more tender-minded than tough-minded. Score L - Trusting/Suspicious - relates that the average administrator does not lean strongly toward either side. Score M states that the administrator tends to be a bit more imaginative than practical. He tends to become absorbed in his own thoughts and is more

TABLE OF MEANS

Table 8

<u>VARIABLE</u>	<u>MEAN</u>	<u>STANDARD DEVIATION</u>
SCORE A	6.08	2.31
SCORE B	7.67	1.63
SCORE C	5.72	1.52
SCORE E	6.63	2.07
SCORE F	5.68	1.88
SCORE G	6.04	1.76
SCORE H	6.48	1.86
SCORE I	6.64	2.14
SCORE L	5.41	1.98
SCORE M	6.32	1.76
SCORE N	5.13	1.94
SCORE O	4.79	1.53
SCORE Q1	5.31	1.99
SCORE Q2	6.28	1.88
SCORE Q3	5.96	1.62
SCORE Q4	5.79	1.74

individualistically oriented. Score N indicates no particular leaning toward Fothright and Shrewd. Score O shows the administrator is usually self-assured and secure. These people tend to be unruffled and unshakable. Score Q1 - Group-oriented/Self-sufficient, shows control tendencies. Score Q3 indicates the administrator tends a bit toward the controlled and precise. Score Q4 showed that some administrators are relaxed, where others are tense - with a slightly higher number tending toward tension.

A profile was then prepared using the means for principals, assistant superintendents and superintendents. In most cases, the profiles were quite similar, but there were some differences. The profile indicated that superintendents were warmer and more favorably inclined toward occupations dealing with people. This would seem understandable, since the superintendent spends a larger amount of his time dealing directly with other individuals. Superintendents also scored higher in shrewdness. They are more polished and experienced, and again are better able to deal with person-to-person confrontations. Another part of the profile indicates superintendents tend to be more conservative. They are cautious regarding new ideas, and tend to oppose and postpone change. Since these people are at the "top" of their profession already, they may have a vested interest in preserving the status quo.

Profiles were drawn using the means for administrators in elementary schools, secondary schools and both. The chief difference apparent in the profiles indicated that the elementary school administrator is more tough-minded than the secondary school administrator. These people are more realistic and "down-to-earth" than the secondary administrator. The secondary administrators tend to be more sensitive and fanciful, but also less realistic.

Profiles were then drawn for levels of education - Masters, Ed.D., Ph.D. and all others. Those holding doctorates scored generally higher in terms of being outgoing and interacting well with other people. On the other hand, those with only a master's degree showed a higher score toward self-sufficiency and resourcefulness, with Ed.D.'s and Ph.D.'s appearing more group oriented and more in need of support and approval from the group.

SCORE CORRELATIONS

The correlation coefficients indicate that certain characteristics tend to occur in pairs. An explanation of these relationships follows.

Scores A and F correlate. The reserved, detached individual tends also to be prudent and taciturn. The outgoing, easy-going individual tends to be lively and enthusiastic.

Scores B and C correlate negatively, which means the concrete-thinking, less intelligent person is calmer and less easily upset than the abstract thinking, more intelligent individual.

Score E correlates with Score H. The mild, accommodating person is more restrained and timid. The more aggressive, competitive individual is more spontaneous and socially bold.

Score F correlates with Score H. The prudent, serious person is also often restrained and timid.

Score G correlates negatively with Score C and positively with Score F. This means that the expedient person with a weaker ego strength is calmer and more serious than the more rule-bound person with a greater ego strength.

Score H correlates positively with Score M and negatively with Score O. This means the shyer person is more careful and conventional and more troubled and worrying. Conversely, the more venturesome, spontaneous individual is also more unconventional but more confident and secure. This individual also correlates positively with Score Q4, which means that the shyer person is more tense and the more venturesome person more relaxed.

Score Q1 correlates negatively with Scores G and N. This would indicate that the more cautious, conservative individual is more rule-bound and also more shrewd and

calculating. The more liberal individual is more likely to disregard the rules and is more genuine and forthright.

Score Q3 correlates with Score G. This would indicate that the more undisciplined, impetuous individual tends to disregard the rules and feels less obligation to society in general. The more compulsive, socially precise individual is more "proper" and feels more bound by the rules of society.

Score Q4 correlates with Score O. The relaxed, tranquil, unfrustrated person is more self-assured and confident. The tense, frustrated person is more apprehensive and self-reproaching.

While the above stated information obviously does not hold true in every case, the relationships hold true in a significant number of cases. Cattell himself has indicated that the relationship between factors better indicates how these factors are to be read and interpreted. Samuel Karson in discussing this aspect of the 16 PF states, "It is infrequent to find things in the real world which are completely independent of one another." 7 Therefore, it is useful to note how these factors interrelate with one another.

Another procedure testing for main effects was run on all the variables. This is part of the General Linear Models

7. Samuel Karson and Jerry O'Dell, A Guide to the Clinical Use of the 16 PF 1976, (Champaign: Institute for Personality and Ability Testing, 1976), p. 75.

Procedure. This was done to determine if there was any co-relationship between the demographic variables. It was determined that there was no significant statistic to be found by this procedure.

INTERVIEWS

As a final research step for this project, I spoke with and interviewed twenty two of the participants of the survey. Each was questioned regarding his or her theories of leadership, and how he or she came up to these standards. The results of these interviews follow.

Subject #1 is a secondary school superintendent. He is fifty five years old and has been an administrator for twenty three years. His 16 PF questionnaire indicated that he is exceedingly outgoing and people-oriented, but is not a very concrete thinker and is not very practical. He believes this is a somewhat correct estimation of his personality, but he does consider himself fairly practical. He felt that most important qualities needed by an administrator are communications skills and a caring attitude, both of which are difficult to measure on a scale of this type.

Subject #2 is an elementary school principal in his fifties, who has held an administrative role for twenty one years, both in elementary schools and high schools. His

16 PF indicated that he is somewhat reserved, and goal-oriented rather than group-oriented. He found this to be a fairly good description of his own personality, and considered the 16 PF a fair test. He considered decisiveness and friendliness the most important qualities an administrator can possess, and said he believes he possesses both of these qualities. This was an interesting observation, since his 16 PF score indicated he is not particularly friendly, and he agreed with this statement also.

Subject #3 is also an elementary school principal, and has been one for nearly twenty years. His 16 PF score indicates he is shrewd, cautious and careful and a concrete thinker. He felt this was an extremely accurate description of his personality. He believes the most important qualities that an administrator needs are intelligence, a strong moral character, and a sense of humor. He felt he possesses all these characteristics. When asked his opinion of the 16 PF, he stated, "On paper it gives an accurate overview of the characteristics of leadership, but in the final analysis, deeds are what distinguishes effective leadership." This is quite a valid point - there are many dimensions of leadership that simply cannot be measured with pen and paper.

Subject #4 is fifty five years old and has been an assistant superintendent in a secondary school for seven years.

The 16 PF indicated that he is outgoing and well organized, but extremely tense. He agreed that this was a fair estimation of his personality. He believes enthusiasm and confidence are essential for the successful administrator, and he feels possesses both qualities. He also stated that a sense of humor is important, although this quality was not tested by the 16 PF. However, he felt the 16 PF provides a reasonably accurate measurement of personality.

Subject #5 has been a high school principal for several years and holds a Ph.D. The 16 PF indicates he is extremely outgoing, an abstract thinker, practical and organized, but tends to be a perfectionist and is often quite tense. He felt the 16 PF was a good test and that his results were quite accurate. He felt the two most important qualities for an administrator are humor and seriousness. Although this seems a contradiction in terms, he believes that different situations call for different reactions, and the efficient administrator must function well at both extremes.

Subject #6 has been an elementary school principal for a few years, and has done administrative work at least part time for most of his seventeen year career. His test indicated that he had high abstract intelligence and was a shrewd thinker. He feels he possesses these qualities to a great extent and that they are, indeed, the most important qualities an

administrator can possess. He felt the 16 PF was a good test, since it identified these qualities in his personality.

Subject #7 is currently working on an Ed.D., and has held administrative posts in elementary and secondary school for the past nineteen years. He is a secondary school principal at the present time. His test indicated he is a concrete thinker and not terribly outgoing. He is not group-oriented, preferring to work alone. He did not believe this was an accurate description of his personality, but he later stated that he thought the test was fair and accurate. His opinion of the test could not be exactly determined, because if it wasn't accurate for him, why would he assume it was accurate for others? He felt an administrator must be strongly committed to his job and must be aware of its importance. He must also be perceptive enough to quickly get to the root of the problem. These are not qualities easily tested on a personality survey.

Subject #8 is fifty years old and has been an administrator for nearly twenty years. He is now a secondary school principal, although he has served in both elementary and secondary schools. His 16 PF indicated he is very outgoing and friendly, an abstract thinker, highly organized and practical, and calm and cool in most situations. He believes the 16 PF is an accurate test and has accurately indicated his basic personality traits. He felt that the effective administrator needs to

possess initiative and adaptability, and he feels he has both qualities to a large extent.

Subject #9 is twenty eight years old and has been a high school assistant superintendent for one year. His 16 PF profile indicated that he is an abstract thinker, is goal-oriented, and is often tense and nervous. He believes this profile is somewhat true of him, but feels that his communicative skills are greater than those indicated by the test. However, he believes the 16 PF is basically sound. He feels that intelligence and communicative skills are the greatest assets an administrator can possess, and he feels he possesses both to a great extent.

Subject #10 is forty five years old and has been an elementary school principal for nine years. Her 16 PF profile indicated she is highly intelligent, an abstract thinker, extremely practical, conservative and conventional. She agreed with this to an extent, but feels she is actually less conservative and conventional than the 16 PF indicates. She believes that the most important personality characteristics for an administrator are intelligence, compassion and consistency, and she feels she possesses all three to a great degree.

Subject #11 is forty six years old and has been a secondary school principal for a few years after several years

of teaching and other lesser administrative positions. She holds a Ph.D. degree. Her 16 PF profile indicated that she is extremely outgoing, warm and group-oriented. It also indicated she is an intelligent, abstract thinker and is calm and sure of herself. She also had a high score as being tough-minded. She agreed with this assessment except for the "tough-minded" part. She believes one can't be seen as a "wimp", but that compassion is more appropriate in a school setting than tough-mindedness, which can easily be overdone. She feels that compassion and intelligence are essential to the administrator, and also the ability to communicate well both orally and in writing. She believes she possesses all these qualities, and that these qualities have made her a successful administrator.

Subject #12 is forty five years old and has been an administrator for seventeen years, currently as a secondary school assistant superintendent. His 16 PF profile indicates that he is conservative and practical and reserved, and oriented more toward individual work than the group. His test also indicated a high degree of tension. He agreed that this was a fair assessment of his personality. He believes the most important qualities an administrator can possess are courage and poise, both of which he feels he possesses.

Subject #13 is forty seven years old and has been an

administrator for twenty three years. He is currently the superintendent of an elementary school district and holds an Ed.D. degree. His 16 PF profile shows great warmth and outgoingness. He is practical and somewhat conventional, but also caring and tender minded. He also shows great abstract intelligence. He stated this profile was somewhat accurate, but did not indicate what parts he agreed with and what parts he didn't. He did say, however, that he feels he possesses warmth, strength and flexibility, which he considers the most important traits for an administrator. He believes the 16 PF is an interesting survey, particularly for someone who wants to find insights into one's self. He does not believe, however, that it is accurate enough to be used as a screening device for future administrators, and that it should only be used in conjunction with other measurements.

Subject #14 is fifty years old and has been an administrator for twenty one years, currently as a high school principal. His 16 PF test shows him to be intelligent and practical, but cool and reserved with others. The test also indicates he is tense and greatly concerned with the opinions of others. He stated that this profile was accurate. He believes listening skills and the ability to make decisions are the most important traits an administrator can possess, and he feels he possesses them to a great extent.

Subject #15 is forty four years old, and has been an administrator in the same district for fifteen years. He currently serves as an assistant superintendent in a consolidated district. His 16 PF profile shows him highly intelligent and exceedingly concerned with others. He believes this was correct. He believes the most important qualities for an administrator are intelligence, patience and the ability to listen. He feels he does well as far as intelligence and listening skills are concerned, but feels that he needs more work where patience is concerned.

Subject #16 is fifty nine years old and has been an administrator for thirty three years. She is currently serving a consolidated district as a principal. Her 16 PF survey shows her to be highly intelligent, practical and well organized. She is not concerned with the opinions of others, and the survey indicates she is cool and reserved with others. She believes this is an accurate summary of her personality. She feels the administrator must have intelligence, common sense and the ability to communicate well with others. She believes she possesses all these qualities.

Subject #17 is a secondary school superintendent. She is fifty one years old and has been an administrator for nineteen years. Her 16 PF survey indicates she is very bright, organized, practical and conservative, but tends to be quite

tense. She stated that she agreed with this somewhat, but that she had taken the 16 PF before, and believes it can be manipulated to give whatever results the individual wishes. She believes that the ideal administrator has intelligence, sensitivity and tough mindedness. She believes she possesses all of these qualities to a great degree.

Subject #18 is a secondary school principal. He is approximately fifty years old, and has been an administrator for twenty years. He holds an Ed.D. degree. His 16 PF profile shows him to be extremely outgoing, intelligent and group-oriented. He is calm and confident and practical. He said this is a fair estimation of his personality. He feels that emotional stability and ambition are necessary if an administrator is to be successful. He feels these are qualities he possesses.

Subject #19 is an elementary school principal, a position he has held for twenty years. His 16 PF states that he is very outgoing and people-oriented. It also states that he is tense and often not secure in his decisions. He did not feel this was completely accurate, because although he agrees that he is outgoing and people-oriented, he does not consider himself tense or insecure. He considers the most important qualities an administrator can possess to be vision and realistic educational values. He stated that he strives to have greater

vision, and this is his greatest problem as an administrator.

Subject #20 is a secondary school principal, and has been an administrator for nineteen years. He is fifty eight years old. His 16 PF survey indicates that he is calm and practical, goal rather than group oriented and neither very outgoing nor very reserved. He said he only agreed with this estimation to a small extent, but would not state what parts of it he agreed with and what parts he didn't. He stated that he didn't know what qualities a good administrator needed and did not have any particular theory regarding successful administration.

Subject #21 is an elementary school principal. He is thirty nine years old, and has held this position for a little more than a year. He has held other administrative positions for the prior five years. His 16 PF survey indicates he has great abstract intelligence, but is not very outgoing and prefers jobs that do not require a great deal of personal contact. He is also very practical and cautious. He agreed that he is intelligent and practical, but felt that he is actually more outgoing and people-oriented than the survey indicates. He feels that the most important qualities for an administrator are open mindedness, vision and a sense of humor. He rates himself high on vision and a sense of humor. He feels he needs improvement regarding open mindedness, but that he is working to improve in this area.

Subject #22 is an elementary school principal. He is forty seven years old and has been an administrator for eighteen years. His 16 PF survey indicated he is a friendly and outgoing individual who is basically a concrete thinker. He is practical and very confident about his own abilities. He agrees wholeheartedly with this estimation of his personality, and said he found it very interesting that a test of this nature could so accurately assess his personality. He feels the ideal administrator should be flexible and decisive and a good listener. He believes he possesses all of these qualities and is particularly pleased with his skills as a listener. He believes his success as a listener is due to his interest and affection for other people.

Several personality traits were recommended by several of those interviewed. The most frequently named qualities were: intelligence (8), compassion (7), a sense of humor (5), vision (5), decisiveness (4), communications skills (4), listening skills (4), common sense (4) and flexibility (3).

The interviews indicate a variety of people and some variety of opinion. But some things tend to repeat several times. Most of those interviewed felt that the 16 PF was a fair and accurate test, and most agreed that they possessed the qualities the 16 PF found in their personalities. Some personality traits that interviewees mentioned that were not tested on the 16 PF were a sense of humor, vision for the

future and the ability to be a good listener. However, a wide variety of personality traits were examined, and most indicated that a fair personality profile can be compiled using the 16 PF.

SUMMARY

Upon statistical evaluation of the obtained data, several interesting results were discovered. The first variable tested was position. The statistics indicated that Superintendents were significantly warmer, more shrewd and more conservative than those in lesser positions. The next variable tested was age, but there appeared to be no significant differences based on age. Following this, the variable of type of school served was tested. Elementary school administrators were found to be significantly less tender-minded than secondary school administrators. Level of education was tested next. Ph.D. and Ed.D. holders scored significantly warmer than those holding only an MA. Ph.D. holders also scored as significantly more group-oriented. The last individual variable tested was years of experience in administration. This variable produced no significant differences, just as age showed no significant differences.

The final section of this chapter recorded the results of interviews with twenty-two of the respondents. They showed a wide variety of personality types. Most individuals tended to

agree with the results of the 16 PF, but wished such areas as sense of humor and listening skills had been tested as well.

CHAPTER V

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

INTRODUCTION

The purpose of this chapter is to comment on the implications of the results of this study and to make suggestions for further research that might be done to follow up this study. Implications will be discussed in terms of both theory and practise. Further implications will also be drawn from the results of the personal interviews.

CONCLUSIONS

The hypothesis tested in this paper is as follows: There is a significant difference in personality traits as measured by Cattell's 16 Personality Factors Questionnaire between educational administrators and the general population.

The purpose of this study is to discover what common personal attributes can be found in individuals who have attained leadership roles in education. Two hundred fifty administrators in the Cook County area were sent Cattell's 16 Personality Factors Questionnaire plus a demographic survey. Ninety eight responded. The data obtained by the two questionnaires were analyzed using several statistical methods

including the General Linear Models Procedure. Several interesting statistics were discovered. The first variable tested was position. It was found that superintendents were significantly warmer, shrewder and more conservative than assistant superintendents and principals. There appeared to be no significant differences based on age. The next variable tested was type of school served. Elementary school administrators were found to be significantly less tender-minded than secondary school administrators. Level of education was tested next. PhD and EdD holders scored significantly warmer than those holding only an MA. PhD holders also scored as significantly more group-oriented. The variable for years of experience produced no significant differences. A general profile of the residents as a whole was drawn, and it was discovered that the "average" administrator is more outgoing, warm, adaptable, intelligent, dominant, tender-minded and self-assured than the population as a whole.

IMPLICATIONS FOR PRACTICE

There is a clear indication for further research regarding this paper. It would be interesting to note if a similar profile could be drawn by testing other groups of educational administrators. If the profiles were similar, it would further substantiate the finding of this research. In addition, it would be interesting to compare these profiles with the

profiles for administrators in other fields. A comparison with business leaders, for example, may indicate what personality types are drawn into these two diverse fields; or it may indicate what personality type succeeds in each field. Similar comparisons might also be made to leaders in other fields, such as politics, medicine and religion. It might also be interesting to compare the educational leaders with teachers, to see if a certain type of teacher is more likely to desire a leadership role.

The technique of using a personality profile based on the 16 PF has been used before. As mentioned earlier in this paper, Sloat, Leonard and Gutsch used a 16 PF profile in an attempt to predict which teen-agers were likely to become addicted to drugs and which were not. It would be interesting to discover what the long-term results of this experiment might be. This suggests a possible use for the material discovered in this research. A personality profile of educational administrators based on the 16 PF such as this one could possibly be used to predict which students and/or teachers might be attracted toward an administrative career. It might also be used as a possible predictor of success in an administrative career.

Schools of administration and supervision might also use this research in a similar way. A prospective student might take the 16 PF and a profile could be drawn for that

individual. This individual profile could then be compared with the group profile of administrators. Similarities and differences could then be detected. Admission to the school would certainly not be based solely on the results of the student's similarity to existing administrators, but it might be considered as one of several criteria to help make a final decision regarding the student's aptitude for administration.

Another possible use of this material might be in diagnosing leadership problems. Shirley A. Jackson in her article in Urban Education states that she believes there is a direct relationship between leader personality and measureable success in administration. 1 By comparing the "troubled" leader with the "successful" leader, it might be possible to determine what problems the leader was experiencing.

Many administrators might be interested in the results of this research. In conducting this research, many of the subjects requested "feedback" regarding the end result of the study. A few even asked if the research showed them that they were "right" for their job. The 16 PF, of course, can't tell if anyone is "right" for anything. All the 16 PF can do is indicate how similar one individual is to another or to another group of people. It might be interesting, however, to discover

1. Shirley A. Jackson, David M. Logsdon and Nancy E. Taylor, "Instructional Leadership Behaviors: Differentiating Effective from Ineffective Low-Income Urban Schools", Urban Education, (April, 1983), p. 59.

if one were a "typical" administrator or if one were "in a class by himself".

IMPLICATIONS FOR THEORY

Some recent theories are related to the subject of leadership behavior, and the relationship between personality factors and leadership. A few of these are briefly described.

William L. Rutherford reports that a group of researchers at the University of Texas at Austin has been studying the leadership skills of elementary and secondary school principals for the past five years.² The data they have discovered is based on observations of and interviews with the principals, and interviews with their teachers and superiors. They found that the most effective principals had certain qualities in common. The successful principals have a clear vision for their schools, can translate these visions into goals for their schools, can establish a positive school climate, continuously monitor progress and intervene in a supportive manner when it is necessary. But they also found that these goals were achieved by different people in different ways, dependant upon the personality of the principal. Rutherford concludes, then, that while personality affects the leadership style of the principal, there are no real "right" or "wrong" personalities for effective educational leadership.

2. William L. Rutherford, "School Principals as Effective Leaders", Phi Delta Kappan, (September, 1985), p. 32.

In the September, 1985 edition of Phi_Delta_Kappan , Luvern L. Cunningham of Ohio State University discusses those leadership skills he feels will be important in the future. 3 He based his opinion on an extensive exploration of the literature involving leadership. The skills he lists are:

1. Focusing on the present and the future simultaneously.
2. Bridging the gaps between different interest groups.
3. Scanning, monitoring, and interpreting events.
4. Appraisal skills.
5. Intuition.

The qualities Cunningham would find most necessary to develop these skills are intelligence, creative imagination, flexibility and openness to change.

George R. Kaplan singles out four personality characteristics he feels are necessary for effective leadership: The leader should be "enterprising, cerebral, feisty and wise". 4 He also believes that most effective leaders are fluent and expressive public speakers, and this simplifies their leadership tasks. This quality of leadership is impossible to measure on the scales used on this paper, but most leaders appeared to be enterprising and cerebral and quite a number feisty. Wisdom is a little more difficult to judge.

3. Luvern L. Cunningham, "Leaders and Leadership", Phi_Delta_Kappan , (September, 1985), p. 18.
4. George R. Kaplan, "Shining Lights in High Places: Education's Top Four Leaders and Their Heirs", Phi_Delta_Kappan , (September, 1985), pp. 10-11.

Larry Cuban feels that the essence of educational leadership is dealing with conflict. 5 The successful administrator simultaneously plays the roles of politician, manager and teacher. Sometimes these roles come into conflict with one another, and the individual who can best deal with these natural conflicts will be the most effective leader. He feels that the effort to balance these conflicts leads to the great turnover among leaders in many school districts.

IMPLICATIONS OF INTERVIEWS

In the last section of this study, twenty two of the original participants were interviewed regarding their reactions to the results of this study and also their individual opinions about leadership. Each participant was asked several questions regarding the 16 PF, his or her own personal philosophy of leadership, and his or her opinions of effectiveness. The information obtained in these interviews was discussed in the previous chapter. Much interesting information was uncovered. A similar study of this nature with a larger number of subjects would probably also provide additional important data.

With few exceptions, the administrators felt that the questionnaire was fair and accurate. By and large, they felt that the correct personality characteristics had been identified, and most felt they possessed these qualities.

5. Larry Cuban, "Conflict and Leadership in the Superintendency", Ehi_Delta_Kappan , (September, 1985), p. 28.

Most administrators questioned believed the 16 PF was a valid tool, with a few negative comments. Some administrators complained that the questionnaire was too long. The average interviewee spent forty-five minutes completing the form. Others stated that since these questionnaires were not completed under controlled conditions, the results could not be considered completely accurate. There may be some truth to both comments, but the majority of the interviewees agreed that the 16 PF was a valid choice for this study.

Since there were some objections to the length of the questionnaire, it might be difficult to convince these same individuals to submit to another form of the test. However, re-testing with a different personality survey might produce interesting results. In addition, it would be interesting to see if a different survey would indicate the same personality characteristics.

The twenty two individuals interviewed all indicated at least a fairly high view of their own effectiveness, and some indicated a very high degree of effectiveness. Of course, these could quite possibly be prejudiced views of effectiveness. Since no other employees of the schools in question were interviewed, one has no other personal measure of these leaders' effectiveness.

All interviewed individuals seemed secure, self-confident, intelligent and in-control; but since they were not observed

"on-the-job", the personal reactions of the author may or may not be valid.

In reading over the interviews it was found that those administrators who disagreed with the findings of the 16 PF always disagreed regarding a negative quality of some kind. Those who disagreed with a negative quality frequently agreed with the positive personality traits mentioned in the profile. Although no general statement can be made about the significance of this phenomenon, one might speculate that it is easier to see the positive side of oneself than the negative.

One of the interesting factors discovered in the personal interviews was that many of the administrators mentioned the ability to be a good listener as one of the needed qualities for success. Since this quality is not tested by the 16 PF, it would be interesting to see how administrators rank as listeners. Several quick and simple listening tests exist that might be useful for this purpose.

Most of the interviewed individuals have a clear idea in their own minds of what constitutes effective leadership. Their opinions, however, do differ somewhat. Even these practicing leaders are not quite sure what has brought them to a leadership position. A larger number of personal interviews might be interesting for this purpose. It would be good to compare a greater number of opinions than twenty two.

A larger number of personal interviews certainly would also be useful. The original plan was to conduct only fifteen interviews, but since the results were so interesting and more individuals were willing to be interviewed, it was decided to do more interviews. Given time and facilities it would be even more valid to conduct a larger number of interviews.

Even though a general profile can be drawn of the "typical" administrator, it is clear that many individual administrators do not fit that mold. It is obvious that people of many different personality types have successfully achieved an administrative position - outgoing and reserved, abstract and concrete, tough-minded and tender-minded, calm and tense, conventional and innovative. Although certain personality traits appear more frequently than others, it is clear that there is great diversity among the educational administrators.

It is possible to develop a profile of the "average" administrator, even though it obviously does not apply to all administrators. It is also possible to discover significant differences among administrators, based on such categories as position, type of school and level of education - unfortunately age and years of experience did not seem to indicate clear differences. Obviously more needs to be done in many areas to follow up on what has been accomplished in this study.

SUGGESTIONS FOR FURTHER RESEARCH

It would be interesting to see if some other measure of leadership success could be compared to the results of this study. No part of this study actually measured success levels of the administrator - success was only measured in terms of the attainment of a position of leadership. Although some administrators were questioned regarding their own opinions of success, this was not a major part of the study. Some measure of the opinions of co-workers or success levels of students might provide interesting data to compare with the information on personality.

It would be interesting to see how these personality characteristics relate to leadership effectiveness. An earlier review of the literature indicates several methods that could be employed for this purpose. Another questionnaire mentioned earlier in this paper has been used to measure effective leadership. This is a short, rather simple survey. A comparison could be made of the results of the two surveys. Another possible measure is teacher evaluation. Teachers who work directly with the administrator could have a clear view of his effectiveness or lack of it. Although no pre-existing questionnaire was found for this purpose, it would be relatively easy to devise an instrument to evaluate administrators. It

would be interesting to see what kind of personality is perceived to be effective by supervised teachers. Another possibility would be an evaluation by peers and/or superiors. This would not be very effective, however, in small districts where there are few administrators, and would probably not be possible at all with superintendents. For administrators who have served a district for some time, it might be possible to evaluate changes within the district that might be attributed to the individual administrator. Perhaps changes in overall grade-point average or number of drop-outs might be a measure. This might be difficult to ascertain, however, because there might be a large number of other variables operating.

Another area of further study might be retesting the administrators with another form of the 16 PF. It would be interesting to see if the results of the second test would be similar to the first test. Results from other surveys indicate this would probably be so. However, this would be rather difficult to achieve, since many of the original participants in the survey complained about the length of the original questionnaire. It is highly unlikely that many of them would be willing to sit still for another form of the same test.

Other personality type tests are also available, such as the Omaha Comprehensive Myers-Briggs Type Indicator

(personality) and the Tennessee Self-Concept Scale, which were mentioned earlier in this paper regarding other studies. A comparison of the 16 PF results with those of another personality test might help determine the validity of the original test.

In the Halprin study, cited in Chapter III, both the 16 PF and the Tennessee Self-Concept Scale were used, and the results of both tests were compatible. This might indicate that the same results would be found with this survey.

A further study of personality characteristics related to age could be worthwhile. Subjects in this study were divided into three age groups: under 45, 45 to 55, and over 55. The study indicated that statistically there were no significant differences among the three groups. However, it seems reasonable that some personality differences would be found related to differences in age. Perhaps a larger study might reveal significant differences. Another possibility might be more age categories to get a clearer view. Both of these techniques might have disclosed the same results, but more data of this nature would be interesting.

Intelligence seems to play a factor in leadership, and this seems logical. A certain degree of intelligence would seem necessary to make the decisions required of a leader. Personal warmth would certainly seem to be an asset, if not

a necessity. Administration involves direct contact with many people, and a warmth and openness toward others would certainly aid in these human contacts. Shrewdness, the third quality found in many administrators, could probably also be of help. The balances and conflicts that are a natural part of the administrator's daily life certainly would require shrewdness.

There was some division of opinion on the quality of "tough-mindedness". Some of the subjects interviewed felt this was a valuable quality for an administrator to possess. Others said that in some times and places, tough-mindedness is inappropriate, and can better be replaced by consideration and compassion. Further research into this aspect of personality might also be worthwhile.

Some other variables could also be tested. The general health of the administrators might have some effect on their outlook. More data on family background and attitudes toward education might also be relevant. It would also be interesting to know the college majors of these individuals - perhaps it would be worthwhile to compare education majors with majors in other areas.

Ultimately, the essence of leadership remains elusive. While it is possible to determine certain qualities that many leaders have in common, there is no way to clearly determine

the interrelationship of these factors.

SUMMARY

What exactly makes one person a leader and another a follower? As indicated in the extensive research of many individuals cited in this study, that is not an easy question to answer. Much research has been done on this subject. A good deal of it has been reported in Chapter II of this paper. Certainly much more research will be done before a definitive answer can be found, if ever. The purpose of this paper has been to make a contribution to the literature of leadership, and perhaps in some small way to help answer the question.

Leadership is essential in all areas of society, but this is especially important in the constantly changing area of educational leadership. Anything that can help administrators understand, evaluate and hone their leadership skills will be an aid to education in general.

Profiles such as the one drawn in this study might be useful in several ways. Comparing a profile of educational leaders with the profile of leaders from other areas might indicate what impels one into educational leadership rather than leadership in another area. A profile might also help predict what type of person might be successful in administration. The profile might also be useful in diagnosing leadership problems. Several other possible

areas of research might be indicated. It would be good to see how successful various tested administrators actually are. Re-testing participants with other forms of the 16 PF and other personality tests might test the validity of this data. A larger number of participants might also alter the outcome.

Interviewees indicated they felt the 16 PF was fair and accurate. However, it should be mentioned that those interviewed displayed a wide variety of personality types. All considered themselves at least fairly efficient, and many considered themselves highly efficient. This would indicate that there is no single personality type that succeeds in leadership, but that different personality factors work in different situations.

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APPENDIX A - LISTING OF ALL DATA

The appendix is a listing of all raw data upon which the study is based. Scores and demographic data are included for all ninety eight subjects. Information listed includes sten scores for all sixteen personality factors, age group, years of experience, position, educational level and type of school served.

S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	Y				
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E				
O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	A				
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R			EDUC	SCH
E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	R	AGE	POSITION	LEVEL	TYPE
B	C	E	F	G	H	I	L	M	N	O	Q1	Q2	Q3	Q4					
5	4	8	6	4	7	9	6	6	6	7	7	3	4	6	25-45	11	PRINC.	PHD	SEC.
7	6	6	7	7	10	8	8	5	8	4	7	6	7	7	25-45	1	SUPER.	EDD	ELE.
8	5	7	7	6	5	7	4	3	4	4	5	6	6	7	25-45	1	ASST SUP	MA	SEC.
5	4	7	3	7	10	10	4	5	6	7	5	5	9	5	25-45	1	PRINC.	EDD	ELE.
9	6	6	7	4	7	8	4	7	4	5	5	6	8	5	25-45	12	PRINC.	MA	SEC.
10	8	8	7	4	8	10	3	7	4	4	6	8	4	5	25-45	13	PRINC.	PHD	BOTH
10	7	4	5	5	7	7	2	8	5	3	4	7	8	3	25-45	14	PRINC.	MA	ELE.
5	6	6	3	5	6	7	4	5	5	4	6	4	7	5	25-45	16	PRINC.	OTHER	SEC.
7	6	10	4	5	7	5	9	9	1	4	7	3	6	7	25-45	9	PRINC.	PHD	BOTH
4	4	5	1	4	5	6	8	8	3	5	8	7	9	6	25-45	1	PRINC.	MA	SEC.
6	6	5	3	6	7	2	4	8	6	4	4	3	6	6	25-45	2	PRINC.	MA	SEC.
7	3	8	6	6	8	7	8	8	3	4	3	6	5	3	25-45	8	PRINC.	MA	ELE.
10	7	9	5	4	5	2	7	6	4	6	7	10	4	4	25-45	15	PRINC.	MA	ELE.
9	6	9	5	8	3	3	6	2	4	3	6	7	6	7	25-45	9	PRINC.	MA	ELE.
6	6	9	9	8	8	10	4	6	1	4	6	6	9	5	25-45	10	PRINC.	PHD	BOTH
8	6	6	8	7	7	6	4	5	4	7	3	8	5	5	25-45	15	PRINC.	MA	ELE.
10	6	6	8	8	7	9	7	1	6	7	6	6	6	7	25-45	13	PRINC.	MA	SEC.
10	4	10	4	6	7	6	6	7	4	6	5	8	8	10	25-45	17	ASST SUP	PHD	BOTH
9	5	4	3	5	4	8	4	8	6	3	5	8	6	6	25-45	1	ASST SUP	MA	SEC.
6	6	7	5	7	5	7	4	7	8	5	4	6	6	4	25-45	3	ASST SUP	PHD	BOTH
10	6	6	6	5	6	6	7	6	3	5	7	6	4	4	25-45	15	ASST SUP	MA	ELE.
9	4	8	6	7	6	6	7	5	7	5	4	7	5	6	25-45	13	ASST SUP	PHD	SEC.
7	5	8	6	10	9	8	5	6	8	4	1	6	5	5	25-45	17	ASST SUP	MA	SEC.
7	7	10	7	10	9	2	7	7	8	4	5	4	7	7	25-45	14	SUPER.	PHD	ELE.
8	4	4	5	5	3	7	5	6	8	5	4	8	7	5	25-45	6	SUPER.	EDD	SEC.
10	8	10	6	4	7	8	5	10	4	4	9	9	2	4	25-45	15	SUPER.	EDD	SEC.
8	6	8	7	6	6	7	4	5	4	6	7	3	4	10	25-45	11	PRINC.	PHD	ELE.
10	6	8	9	5	8	10	7	7	1	5	7	3	4	5	25-45	8	PRINC.	OTHER	BOTH
8	6	9	6	9	9	5	5	6	7	5	6	7	7	6	25-45	5	PRINC.	MA	ELE.
8	7	5	1	9	5	6	9	5	10	6	4	8	8	7	25-45	6	PRINC.	MA	ELE.
5	6	7	6	8	3	6	7	2	6	9	5	10	6	9	25-45	8	ASST SUP	MA	SEC.
10	9	7	7	3	9	7	6	7	2	3	8	6	5	4	25-45	11	PRINC.	EDD	ELE.
8	4	5	1	6	4	5	7	4	5	5	4	7	5	5	> 55	10	SUPER.	EDD	SEC.
8	2	4	3	8	2	8	7	7	8	5	2	8	9	7	46-55	15	SUPER.	PHD	BOTH
7	5	7	5	6	5	6	4	9	4	4	5	4	6	6	46-55	17	PRINC.	OTHER	BOTH
7	6	7	6	8	6	4	8	6	5	4	3	5	5	3	46-55	21	PRINC.	MA	BOTH
10	6	8	8	6	8	10	5	7	2	2	7	6	4	4	46-55	19	PRINC.	PHD	SEC.
10	8	3	5	4	4	3	2	8	5	4	4	7	4	3	46-55	14	PRINC.	MA	ELE.
10	6	8	7	6	9	5	4	5	4	4	6	9	6	6	46-55	4	PRINC.	MA	ELE.
8	7	9	6	5	5	7	4	9	4	4	9	6	6	6	46-55	22	PRINC.	PHD	BOTH
5	7	5	8	5	6	6	3	6	5	5	3	7	7	4	46-55	10	PRINC.	MA	SEC.
8	3	7	6	6	5	5	5	5	6	7	3	4	5	6	46-55	20	PRINC.	MA	BOTH
6	9	9	3	6	7	8	9	5	4	3	6	9	5	9	46-55	18	PRINC.	MA	ELE.

RAW DATA

	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	Y				
	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E				
	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	A				
	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R				
	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	S	AGE	POSITION	EDUC LEVEL	SCH TYPE
	B	C	E	F	G	H	I	L	M	N	O	Q1	Q2	Q3	Q4							
8	8	5	10	7	6	9	6	6	6	2	4	10	8	6	4	46-55	9	ASST SUP	EDD	SEC.		
3	6	6	3	7	8	8	10	5	6	3	6	4	3	6	6	46-55	18	ASST SUP	PHD	SEC.		
4	5	6	4	2	6	2	6	7	7	4	7	3	6	6	7	46-55	14	ASST SUP	OTHER	ELE.		
8	8	6	10	7	6	8	6	9	9	8	4	4	6	7	4	46-55	17	ASST SUP	PHD	SEC.		
5	7	6	7	5	7	9	5	9	5	3	3	7	8	8	4	46-55	11	ASST SUP	PHD	ELE.		
7	8	5	4	9	10	5	5	8	3	10	6	4	3	6	9	46-55	24	ASST SUP	PHD	ELE.		
1	8	5	6	6	1	7	5	5	5	7	6	7	7	3	6	46-55	14	ASST SUP	MA	SEC.		
9	6	8	8	6	8	7	7	8	5	4	3	9	6	6	6	46-55	25	ASST SUP	PHD	SEC.		
5	9	5	3	4	8	4	10	4	6	5	6	6	7	5	3	46-55	24	ASST SUP	PHD	SEC.		
8	9	7	10	8	5	10	10	5	8	6	3	6	7	6	5	46-55	13	ASST SUP	MA	SEC.		
0	7	6	8	8	6	9	9	5	8	1	3	6	5	7	4	46-55	15	PRINC.	PHD	SEC.		
4	10	5	9	6	5	6	10	7	7	6	4	7	7	4	4	46-55	19	SUPER.	EDD	SEC.		
7	8	6	7	5	6	4	10	4	4	6	8	6	3	6	8	46-55	27	SUPER.	EDD	ELE.		
9	9	7	3	5	4	6	6	3	7	6	5	6	8	5	5	46-55	23	SUPER.	PHD	ELE.		
6	8	7	5	4	7	8	7	3	7	6	5	2	8	8	5	46-55	23	SUPER.	PHD	ELE.		
5	8	7	6	6	4	3	6	5	6	4	4	7	4	5	7	46-55	21	SUPER.	PHD	BOTH		
0	5	6	5	6	6	6	6	2	5	8	7	5	7	8	7	> 55	23	SUPER.	PHD	SEC.		
4	6	5	4	4	6	7	4	5	8	7	4	4	6	5	5	> 55	25	PRINC.	MA	ELE.		
0	8	4	10	9	6	7	8	10	8	6	7	3	8	5	9	> 55	24	SUPER.	EDD	SEC.		
6	8	7	4	6	7	5	8	3	8	8	5	5	3	8	5	> 55	21	PRINC.	PHD	BOTH		
9	6	9	4	6	4	6	6	3	5	5	6	7	7	4	3	> 55	28	PRINC.	MA	BOTH		
8	8	4	6	6	7	7	5	4	7	5	6	5	6	8	5	> 55	27	PRINC.	EDD	ELE.		
9	10	5	7	7	2	7	10	4	7	6	4	6	5	2	5	> 55	20	PRINC.	PHD	SEC.		
5	7	2	1	4	8	4	10	8	6	5	8	4	9	7	10	> 55	7	PRINC.	MA	ELE.		
4	10	5	8	5	4	6	8	9	7	4	6	5	10	1	8	> 55	13	PRINC.	MA	ELE.		
7	9	4	8	4	7	5	10	4	10	4	6	6	7	8	8	> 55	21	PRINC.	PHD	SEC.		
7	10	5	7	6	5	8	9	4	7	6	4	8	4	6	5	> 55	7	PRINC.	PHD	BOTH		
9	5	7	8	4	8	5	6	7	3	4	5	6	8	5	8	> 55	29	PRINC.	EDD	SEC.		
6	5	5	5	7	8	7	4	5	7	8	4	6	4	8	7	> 55	7	PRINC.	MA	BOTH		
5	5	5	7	6	4	5	5	6	6	3	5	7	6	5	7	> 55	19	PRINC.	MA	BOTH		
5	8	6	9	9	7	9	9	8	8	3	2	5	7	7	4	> 55	22	SUPER.	PHD	BOTH		
5	7	6	5	7	3	8	6	3	6	6	6	1	6	5	7	> 55	19	PRINC.	MA	SEC.		
4	6	7	4	7	4	9	6	5	8	3	4	8	6	6	4	> 55	19	PRINC.	MA	ELE.		
4	10	8	6	8	6	7	10	3	8	5	3	6	3	7	4	> 55	25	PRINC.	OTHER	SEC.		
5	5	6	5	6	6	6	6	3	6	4	4	4	8	7	5	> 55	26	PRINC.	OTHER	BOTH		
5	8	7	8	6	8	7	6	5	6	4	4	2	6	8	8	> 55	25	PRINC.	MA	SEC.		
4	7	7	8	5	5	6	4	2	5	5	5	6	9	5	8	> 55	4	PRINC.	MA	ELE.		
5	7	4	4	7	8	6	5	7	6	5	6	2	5	7	5	> 55	16	PRINC.	MA	ELE.		
3	7	6	10	5	6	7	3	8	6	4	5	2	8	6	8	> 55	32	PRINC.	MA	BOTH		
7	8	7	4	6	5	7	9	5	10	4	4	6	7	7	5	> 55	22	PRINC.	MA	SEC.		
7	6	3	6	3	8	4	8	4	6	5	10	6	8	7	5	> 55	30	ASST SUP	EDD	BOTH		
3	8	4	4	5	7	4	5	5	5	6	6	7	6	6	6	> 55	22	ASST SUP	MA	BOTH		
1	8	4	8	1	8	8	6	5	7	7	6	5	10	8	7	> 55	33	ASST SUP	MA	BOTH		

RAW DATA

S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	Y
C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	E
O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	O	A
R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	E	R
																				AGE
																				S
																				POSITION
																				EDUC
																				LEVEL
																				SCH
																				TYPE

	B	C	E	F	G	H	I	L	M	N	O	Q1	Q2	Q3	Q4						
4	8	4	7	6	5	5	2	2	7	4	5	7	7	7	9	> 55	34	ASST	SUP	PHD	BOTH
4	8	7	6	6	4	5	5	7	4	4	6	8	2	4	5	> 55	31	ASST	SUP	PHD	SEC.
4	9	6	6	6	6	5	8	4	8	6	4	4	6	5	5	> 55	31	ASST	SUP	PHD	ELE.
4	4	4	8	3	8	7	6	7	2	5	5	6	7	7	8	> 55	25	ASST	SUP	MA	BOTH
7	10	6	8	8	4	8	2	8	8	7	3	10	7	6	6	> 55	18	ASST	SUP	PHD	BOTH
4	8	8	5	5	7	7	6	4	5	6	3	1	8	5	4	> 55	27	SUPER.		MA	SEC.
6	8	7	4	6	7	7	3	7	10	5	3	6	7	5	5	> 55	34	SUPER.		PHD	BOTH
8	8	6	7	8	6	7	5	7	6	5	4	4	3	6	7	> 55	26	SUPER.		EDD	BOTH
8	7	8	9	4	7	8	6	3	8	6	2	4	7	7	4	> 55	12	PRINC.		MA	ELE.
8	8	5	6	8	6	10	8	4	7	4	1	7	5	6	4	> 55	26	PRINC.		MA	ELE.
9	8	1	5	3	7	5	6	6	5	8	4	1	6	7	7	> 55	18	PRINC.		EDD	BOTH
0	7	6	9	8	2	9	8	7	8	5	4	6	4	2	4	> 55	27	SUPER.		EDD	ELE.

APPENDIX B - SURVEY QUESTIONNAIRE

(optional) _____

tion _____ Sex _____

25-35 36-45 46-55 56-65 over 65

C N O other

nationality _____

igion _____

ighest Degree MA PHD EdD other _____

entering administration _____

ily Background ---

ather - Highest level of education

elementary high school BA/BS MA PhD EdD other _____

mother - Highest level of education

elementary high school BA/BS MA PhD EdD other _____

er of Siblings _____

Position in Family _____

or Teaching Experience ---

elementary secondary college other non-educational

of college for highest degree

public private

ital status --- single married divorced widowed

er of children _____

of children

re aspiration

APPENDIX C - INTERVIEW QUESTIONS

What personality characteristics do you feel are most important for an educational administrator? Why?

Do you feel you possess these characteristics? To what degree?

Do you feel that your personality assessment according to the 16 PF is accurate? How is it correct and how is it incorrect?

How would you describe your leadership style?

Is the style one uses dictated by the school situation? Could you give an example of this?

What could be done in the future to better train prospective administrators the conditions they will face in today's schools?

APPROVAL SHEET

The dissertation submitted by Diane Anderson Pressel has been read and approved by the following committee:

Dr. Philip Carlin, Director
Administration and Supervision, Loyola

Dr. Max Bailey
Administration and Supervision, Loyola

Dr. Frederick Lunenberg
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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of EdD.

Date

May 12, 1986

Director's Signature

